LBT-A790/A795

SERVICE MANUAL

AEP Model
LBT-A790

E Model
LBT-A790/A795

Australian Model
LBT-A795

Tourist Model
LBT-A790

- LBT-A790/A795 are composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR THESE SYSTEM

	LBT-A790									LBT-A795		
	AEP	IT	G	CIS	E	EA	SP	MY	JE	E	MX	AUS
POWER-AMPLIFIER	TA-A790N											
PRE-AMPLIFIER	TA-A790E											
CASSETTE DECK	TC-A790											
TUNER	ST-A790											
CD PLAYER					CDP-M46					CDP-C433M		
SPEAKER SYSTEM									SS-D790AN			

AUS : Australian
MX : Mexican
G : German
SP : Singapore
IT : Italian
EA : Saudi Arabia
MY : Malaysia
JE : Tourist

STEREO COMPONENT SYSTEM

SONY®

English
94D0570-1
Printed in Japan

Sony Corporation
Comsumer A&V Products Company
Home A&V Products Div.

9-959-479-11

Published by Home A&V Products Div.
Quality Engineering Dept.

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Abbreviations

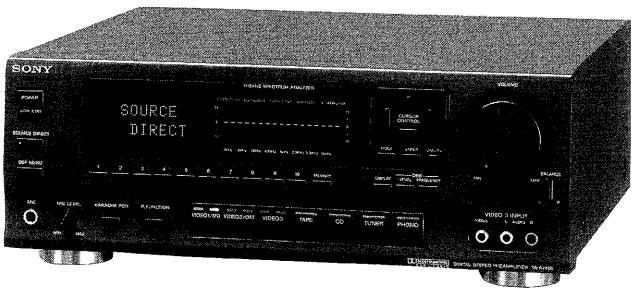
AUS: Australian	IT : Italian
MX : Mexican	EA : Saudi Arabia
G : German	MY : Malaysia
SP : Singpore	JE : Tourist

Ref. No.	Part No.	Description	Remark
	1-467-614-11	REMOTE COMMANDER (RM-S721)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-594-11	ANTENNA (FM) (AEP, IT, CIS)	
	1-501-659-11	ANTENNA (FM) (EA, E, MY, SP, JE, MX, AUS)	
	1-551-734-11	CORD, CONNECTION (PIN-PIN) (EA, E, MY, SP, JE, MX, AUS)	
	1-590-823-11	CORD (WITH CONNECTOR) (3P-11P-11P)	
	1-690-727-11	CORD (SPEAKER) (E, EA, MY, SP, JE, AUS, MX)	
	1-751-179-11	CORD (WITH CONNECTOR) (3P-15P-15P)	
	1-751-180-11	CORD (WITH CONNECTOR) (11P-11P)	
	1-765-462-11	CORD (WITH CONNECTOR) (3P-3P-3P-3P)	
*	3-350-154-01	CUSHION (TC)	
	3-758-344-11	MANUAL, INSTRUCTION (FOR CDP-C433M) (ENGLISH, FRENCH, SPANISH, CHINESE) (A795:E, AUS, MX)	
	3-758-394-41	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP)	
	3-758-394-51	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, G, IT)	
	3-758-394-61	MANUAL, INSTRUCTION (ENGLISH, GERMAN, RUSSIAN, POLISH) (CIS)	
	3-758-394-71	MANUAL, INSTRUCTION (CZECH, HUNGARIAN) (CIS)	
	3-758-394-81	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE) (EA, E, MY, SP, JE, AUS, MX)	
*	4-927-355-01	CUSHION (ST:MADE IN FRENCH)	
*	4-929-563-01	CUSHION (CDP-M46) (ST:MADE IN JAPAN)	
*	4-944-040-01	CUSHION (FRONT) (CDP-C433M)	
*	4-944-041-01	CUSHION (REAR) (CDP-C433M)	
	4-955-663-51	INDIVIDUAL CARTON (ST)	
	4-956-911-01	LID, SLIDE (FOR RM-S721)	
*	4-965-030-01	INDIVIDUAL CARTON (TA-ST-TC) (A790:AEP, CIS)	
*	4-965-031-01	INDIVIDUAL CARTON (TA-ST-TC-CDP) (A790:E, EA, MY)	
*	4-965-032-01	INDIVIDUAL CARTON (TA-ST-TC-CDP) (A790:SP)	
*	4-965-033-01	INDIVIDUAL CARTON (TA-ST-TC-CDP) (A790:JE)	
*	4-965-034-01	INDIVIDUAL CARTON (TA-TC) (A790:AEP, G, IT)	
*	4-965-036-01	INDIVIDUAL CARTON (TA-ST-TC-CDP) (A795:E)	
*	4-965-037-01	INDIVIDUAL CARTON (TA-ST-TC-CDP) (A795:AUS)	
*	4-965-421-01	CUSHION (TA)	
*	4-967-148-01	INDIVIDUAL CARTON (TA-ST-TC-CDP) (A795:MX)	
*	4-967-903-01	INDIVIDUAL CARTON (SS) (A790:JE)	

TA-A790E

SERVICE MANUAL

AEP Model
E Model
Australian Model
Tourist Model



This set is the Preamplifier section in LBT-A790/A795.

SPECIFICATIONS

Audio input	Jack type	Sensitivity	Impedance
VIDEO 1/MD	Phono	435 mV	47 kohms
VIDEO 2/DAT	Phono	435 mV	47 kohms
VIDEO 3	Phono	245 mV	47 kohms
PHONO (MM)	Phono	3.3 mV	47 kohms
MIC	Phone	1 mV	10 kohms

Audio output	Jack type	Voltage	Impedance
VIDEO 1/MD	Phono	235 mV	2 kohms
VIDEO 2/DAT	Phono	235 mV	2 kohms
CENTER OUT	Phono		

Video input (phono jacks)
VIDEO 1/MD, VIDEO 2/DAT, VIDEO 3
1 Vp-p, 75 ohm unbalanced, sync negative

Video output (phono jacks)
VIDEO 1/MD — 1 Vp-p, 75 ohm unbalanced, sync negative
VIDEO 2/DAT — 1 Vp-p, 75 ohm unbalanced, sync negative
MONITOR — 1 Vp-p, 75 ohm unbalanced, sync negative

Frequency response — 15 Hz to 20 kHz $^{+0}_{-3}$ dB
Power requirements — 220—230V AC, 50/60Hz (AEP, G, IT, CIS)
240V AC, 50/60Hz (AUS)
110—120V/220—240V AC, 50/60Hz (E, EA, MY, SP, JE)
120V AC, 60Hz (MX)

Power consumption — 18 W
Mass — Approx. 3.9 kg (8 lbs 10 oz)
Dimensions — Approx. 355 x 135 x 330 mm ($14 \times 5\,^{5}/_{16} \times 13$ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

- Abbreviations
  - G : German model
  - IT : Italian model
  - AUS : Australian model
  - EA : Saudi Arabia model
  - MY : Malaysia model
  - SP : Singapore model
  - JE : Tourist model
  - MX : Mexican model

SAFETY-RELATED COMPONENT WARNING!!

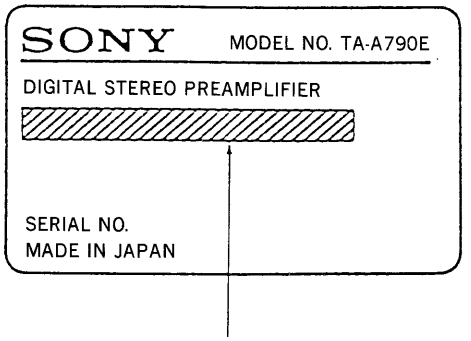
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

DIGITAL STEREO PREAMPLIFIER

SONY®

MODEL IDENTIFICATION

—Specification Label—



AEP, IT, CIS model: AC: 220V—230V~50/60Hz 18W
G model : SYSTEM LBT-A790
AC: 220V—230V~50/60Hz 18W
AUS model : AC: 240V~50/60Hz 18W
E, EA,
MY, SP, JE model : AC: 110V—120V/220V—240V~50/60Hz 18W
MX model : AC: 120V~60Hz 18W

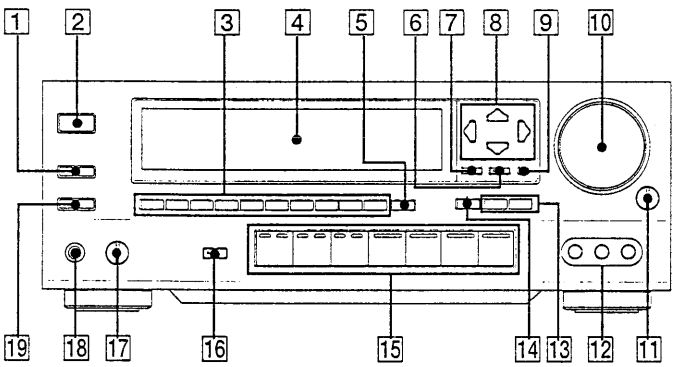
• Abbreviations
IT : Italian model
G : German model
AUS: Australian model
EA : Saudi Arabia model
MY : Malaysia model
SP : Singapore model
JE : Tourist model
MX : Mexican model

TABLE OF CONTENTS

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATION OF CONTROLS

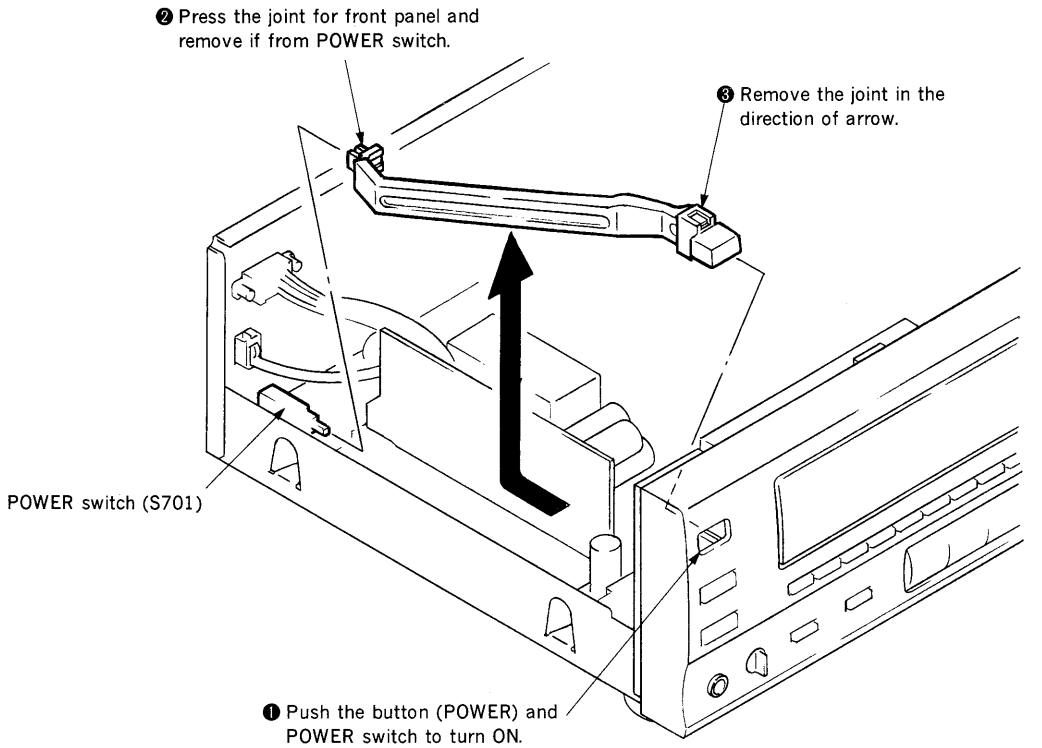


1. SOURCE DIRECT button and indicator (96, 110)
2. POWER switch (20)
3. Numeric buttons (96, 100, 114, 116, 118)
4. Display window
5. MEMORY button (114, 118)
6. ENTER button and indicator (96, 106, 108, 118)
7. MODE button and indicator (96, 106, 108, 118)
8. CURSOR CONTROL buttons (96, 106, 108, 118)
9. CANCEL button (106, 108)
10. VOLUME control (24)
11. BALANCE control (24, 98)
12. VIDEO 3 INPUT jacks (146)
13. DBS LEVEL and DBS FREQUENCY buttons (24)
14. DISPLAY button (112)
15. Function selectors and indicators (42)
16. P. FUNCTION button and indicator (144)
17. MIC LEVEL control (142)
18. HEADPHONES jack (22)
19. DSP MENU button and indicator (96, 100, 116)

SECTION 2
SERVICE NOTE

Note : Follow the disassembly procedure in the numerical order given.

2-1. REMOVAL OF JOINT



SECTION 3
DIAGRAMS

3-1. PIN DESCRIPTIONS

• IC202 LC83015E (Digital Signal Processor)

Pin No.	Pin Name	I/O	Function
1—6	P0—P5	I/O	General purpose input/output ports (with pull-up resistor). Not used.
7	ASI	I	Audio data serial input 1 pin.
8	BCK1	I	Bit clock input pin used for ASI1 input (64fs or 32fs is applied).
9	FS384I	I	384fs or 512fs input pin. Connect to GND.
10	LRCKI	I	L/R channel identification signal input pin ("H" for Lch ; "L" for Rch). Connect to GND.
11	ASI2	I	Audio data serial input 2 pin. Connect to GND.
12	BCK2	I	Bit clock input pin for ASI2 input (64fs or 32fs is applied). Connect to GND.
13	VDD1	—	+5V power pin
14—17	TEST1—TEST4	I	Pins used for tests, normally connected to GND.
18	VSS1	—	GND pin
19	TEST5	O	Output pin used for test, normally open. Not used.
20	$\overline{RAS}$	O	$\overline{RAS}$ signal output pin used for access to external DRAM.
21	$\overline{CAS}$	O	$\overline{CAS}$ signal output pin used for access to external DRAM.
22	$\overline{DWRT}$	O	Data write signal output pin used for access to external memory.
23	$\overline{DREAD}$	O	Data read signal output pin used for access to external memory.
24	—	—	Not used.
25—32	D7—D0	I/O	Data input/output pins used for communication with external memories (D0—D3 for one DRAM ; D0—D7 for two DRAMs or SRAM or pseudo SRAM).
33	VSS2	—	GND pin
34—50	A0—A16	O	External memory address output pin.
51	VDD2	—	+5V power pin
52	OSC1	I	Oscillator input pin (connected to VDD or VSS when oscillator is not used).
53	OSC2	O	Oscillator output pin (open when oscillator is not used or external clock is used).
54	VSS3	—	GND pin
55	FS3840	O	384fs or 512fs output pin (through output of FS384I or self-run oscillating clock). Not used.
56	FS1920	O	192fs or 256fs output pin (1/2 frequency division output of FS3840).
57	FS1280	O	128fs output pin (1/3 or 1/4 frequency division output of FS3840). Not used.
58	FS640	O	64fs or 32fs output pin (1/2 frequency division output of FS1280 or through output of BCK1).
59	FS320	O	32fs or 16fs output pin (1/2 frequency division output of FS640). Not used.
60	LRCKO	O	1fs output pin (1/64 frequency division output of FS640 or through output of LRCKI).
61	AOWCK	O	2fs or 1fs output pin (1/32 frequency division output of FS640). Not used.
62	ASO	O	Audio data serial output 1 pin.
63	AOTDF1	O	Audio data serial output 2 pin. Not used.
64	AOTDF2	O	Audio data serial output 3 pin.
65	SI	I	Input pin for serial data from control micro computer (8 bit data).
66	SICK	I	Input pin for serial clock for SI.
67	$\overline{SIRQ}$	I	Serial input request signal input pin.
68	$\overline{SIAK}$	O	Output pin for indicating that serial input being executed.
69	$\overline{SRDY}$	I	Input pin for ready signal indicating that serial data from control micro computer is complete.
70	SO	O	Output pin for sending serial data to control micro computer (8 bit data).
71	SOCK	I	Input pin for serial clock for SO.
72	$\overline{SORQ}$	I	Input pin for serial output request signal.
73	$\overline{SOAK}$	O	Output pin for indicating that serial output is being executed.

Pin No.	Pin Name	I/O	Function
74	VSS4	—	GND pin
75	$\overline{RES}$	I	reset pin (with pull-up resistor).
76	$\overline{INT}$	I	Interrupt request input pin (with pull-up reistor). Not used.
77	VDD3	—	+5V power pin
78	$\overline{SELC}$	I	Select pin (with pull-down resistor) used to determine whether system clock of LS83015 is produced from FS384I (L) or from self-run oscillating clock (H).
79	$\overline{SACK1}$	I	Select pin (with pull-down resistor) used to determine whether 1/3 frequency division output of FS3840 is used (L) or 1/4 frequency division output is used (H) as FS1280.
80	$\overline{SACK2}$	I	Select pin (with pull-down resistor) used to determine whether each FS output clock is produced from FS384I, LRCKI and BCK1 (L) or from self-run oscillating clock (H).

• IC501 μPD78014CW-057 (System Control)

Pin No.	Pin Name	I/O	Function
1	DSP $\overline{SRDY}$	O	Serial•Handshake output to LC83015E (DSP).
2	DSP SI	O	Serial•Data output to LC83015E.
3	DSP SICK	O	Serial•Clock output to LC83015E.
4	DSP $\overline{SIAK}$	I	Serial•Handshake•Acknowledge input with LC83015E.
5	DSP $\overline{SIRQ}$	O	Serial•Handshake•Request to LC83015E.
6—8	—	—	Not used.
9	LATCH2	O	Latch output to TC9270F (Rear DAC).
10	$\overline{INIT}$	O	For Reset of LC83015E, CXD2564M and TC9270F.
11	ATT	O	Serial•Data output to CDX2564M and TC9270F.
12	SHIFT	O	Serial•Clock output to CDX2564M and TC9270F.
13	LATCH1	O	Latch output to CXD2564M (Front DAC).
14	CLK	O	Serial•Clock output to LC7822 (Analog SW) and LC7535 (E-Vol).
15	DATA	O	Serial•Data output to LC7822 and LC7535.
16	CE	O	Chip•Enable output to LC7822 and LC7535.
17	VSS	—	Microcomputer•GND pin.
18—20	—	—	Not used.
21	$\overline{GAIN2DB}$	O	For Front analog•Gain adjustment. ("L" is +2dB.)
22	$\overline{GAIN4DB}$	O	For Front analog•Gain adjustment. ("L" is +4dB.)
23	$\overline{GAIN8DB}$	O	For Front analog•Gain adjustment. ("L" is +8dB.)
24	PD	O	For Offset calibration of AK5369-VP. (At POWER ON, for 200msec "H" .)
25, 26	—	—	Not used.
27	RECLEVEL	O	At increase more than 6dB for EQ on "L" , to control output voltage to deck.
28	MUTEB-R	O	Mute of surround ch selection (3-1 ↔ 2-2). At mute "L" .
29	P. MUTE	O	Power-AMP mute control of Power ON/OFF. At mute "L" .
30	MUTEB-F	O	Mute (Front) of Power ON/OFF. At mute "L" .
31	—	—	Not used.
32	VSS	—	Microcomputer•GND pin.
33, 34	—	—	Not used.
35	SURR	O	Surround ch selection (3-1 "L" ↔ 2-2 "H")
36	RECOB	O	At the Function is VIDEO 1 "L" , cut the output to VIDEO 1.
37	RECOA	O	At the Function is VIDEO 2 "L" , cut the output to VIDEO 2.
38	DOLBY	O	At the DOLBY PRO-LOGIC "L" , set the DOLBY B for surround output.
39—42	—	—	Not used.

Pin No.	Pin Name	I/O	Function
43	$\overline{\text{RESET}}$	—	Microcomputer•Reset pin
44	MREQ	I	Communication request from μPD78014CW-065.
45	SREQ	O	Acknowledge output to μPD78014CW-065.
46	MCLK	I	Serial•Clock from μPD78014CW-065.
47	MDATA	I	Serial•Data from μPD78014CW-065.
48	VDD	—	Microcomputer•5V power supply pin.
49	X2	—	System clock connection pin
50	X1	—	System clock connection pin
51	IC (VPP)	—	Inner connection (Connect to GND.)
52	XT2	—	Not used.
53	P04/XT1	I	Connect to GND.
54	AVSS	—	Connect to GND.
55	INH	O	Audio•Function output (See Fig. 1.)
56	FUNCB	O	Audio•Function output (See Fig. 1.)
57	FUNCA	O	Audio•Function output (See Fig. 1.)
58	VIDEO-A	O	Visual•Function output (See Fig. 2.)
59	VIDEO-B	O	Visual•Function output (See Fig. 2.)
60	MUTEA	O	Amplifier mute pin. At mute "H" .
61, 62	—	—	Not used.
63	AVDD	—	Connect to 5V power supply.
64	AVREF	—	Connect to GND.

Pin	VIDEO 1	VIDEO 2	VIDEO 3	TAPE	CD	TUNER	PHONO
55	L	H	L	H	H	L	L
56	H	H	H	L	L	L	L
57	H	H	L	L	H	L	H

Fig. 1

Pin	VIDEO 1	VIDEO 2	VIDEO 3
58	L	H	L
59	L	L	H

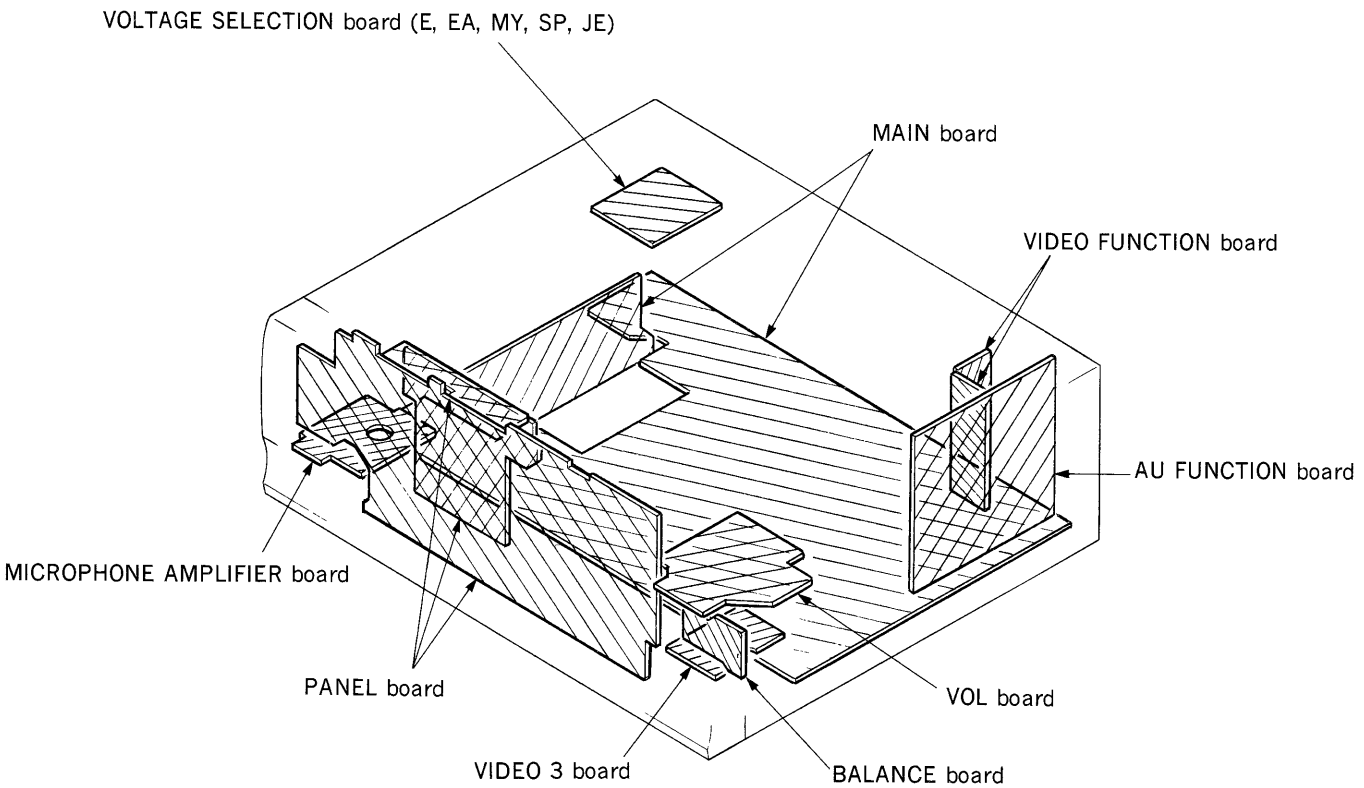
Fig. 2

• IC601 μPD78014CW-065 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Function
1	FL LATCH	O	Latch output to TD62C950RF (FLT-driver).
2	FL DATA	O	Serial•Data output to TD62C950RF.
3	FL CLK	O	Serial•Clock output to TD62C950RF.
4	FL CLR	O	Serial•Clear output to TD62C950RF.
5	$\overline{\text{DSP SORQ}}$	O	Serial•Handshake•Request output to LC83015E.
6	DSP SO	O	Serial•Data output to LC83015E.
7	—	—	Not used.
8	DSP SOCK	O	Serial•Clock output to LC83015E.
9	$\overline{\text{DSP SOAK}}$	I	Serial•Handshake•Acknowledge input from LC83015E.
10	MREQ	O	Communication request to μPD78014CW-057.
11	SREQ	I	Acknowledge input from μPD78014CW-057.
12	MCLK	O	Serial•Clock to μPD78014CW-057.
13	MDATA	O	Serial•Data to μPD78014CW-057.
14—17	—	—	Connect to GND.
18	KEY-O1	O	Keyscan & LED Digit 1
19	KEY-O2	O	Keyscan & LED Digit 2
20	KEY-O3	O	Keyscan & LED Digit 3
21	KEY-O1	O	Keyscan & LED Digit 4
22	KEY-O1	O	Keyscan & LED Digit 5
23—25	—	—	Not used.
26	$\overline{\text{LED1}}$	O	LED Scan Segment 1
27	$\overline{\text{LED2}}$	O	LED Scan Segment 2
28	$\overline{\text{LED3}}$	O	LED Scan Segment 3
29—31	—	—	Connect to GND.
32	VSS	—	Microcomputer•GND pin.
33	VOL LED	O	Volume LED ON/OFF.
34—40	—	—	Connect to GND.
41	AUB OUT	O	AU BUS output
42	—	—	Connect to GND.
43	$\overline{\text{RESET}}$	I	Reset input
44	$\overline{\text{AC CUT}}$	I	$\overline{\text{AC CUT}}$
45	$\overline{\text{AUB IN}}$	I	$\overline{\text{AU BUS IN}}$
46	VOL DOWN	O	Volume Down
47	VOL UP	O	Volume Up
48	VDD	—	VDD
49	X2	—	Crystal connection pin of system clock oscillation.
50	X1	—	Crystal connection pin of system clock oscillation.
51	IC	—	Connect to GND.
52	—	—	Not used.
53, 54	—	—	Connect to GND.
55	VOL LOC	I	Volume position
56	KEY-I1	I	Keyscan IN 1
57	PEY-I2	I	Keyscan IN 2
58	KEY-I3	I	Keyscan IN 3
59	KEY-I4	I	Keyscan IN 4

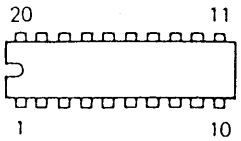
Pin No.	Pin Name	I/O	Function
60	KEY-I5	I	Keyscan IN 5
61	KEY-I6	I	Keyscan IN 6
62	KEY-I7	I	Keyscan IN 7
63	AVDD	—	VDD
64	AVREF	—	VDD (reference)

3-2. CIRCUIT BOARDS LOCATION



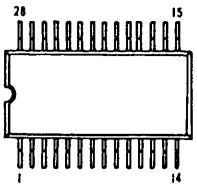
3-3. SEMICONDUCTOR LEAD LAYOUTS

CAT514256B-70RS



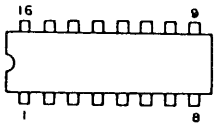
(Top view)

CXD2564AM
TC9270F-ELP



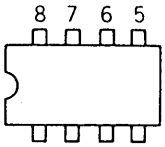
(TOP VIEW)

LA2730
MC14052BCP
SN761200N



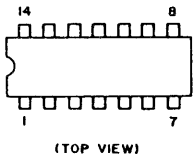
(TOP VIEW)

LB1639
M5218AP
M5218AP-22
NJM4580
NJM4580D-D



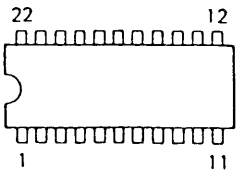
(Top view)

LC4966



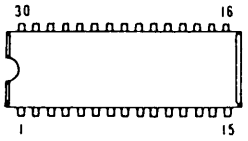
(TOP VIEW)

LC7535



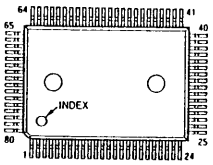
(Top view)

LC7822



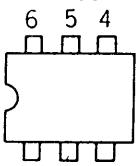
(Top view)

LC83015



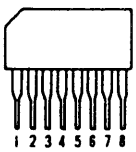
(TOP VIEW)

L78MR06

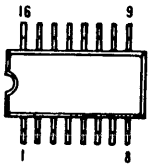


(Top view)

NJM2068L-D

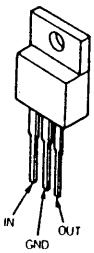


SN74HC112ANS

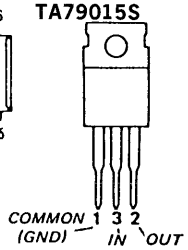


(TOP VIEW)

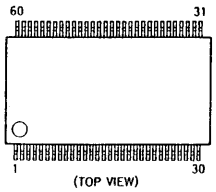
TA7805S
TA7815S



TA79005S
TA79015S

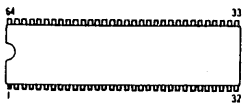


TD62C950RF



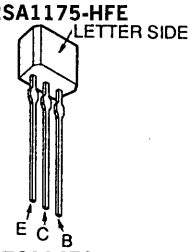
(TOP VIEW)

μPD78014CW-057
μPD78014CW-065

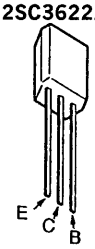


(Top view)

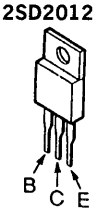
DTA124ES
2SA1175-HFE



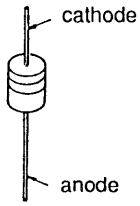
DTC114ES
DTC144ES
2SC2603-EF
2SC2878-AB
2SC3622A-LK



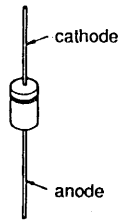
2SD2012



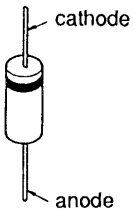
UZ-4.3BSC
UZL-22H



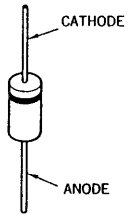
UZL-7M1
11ES2



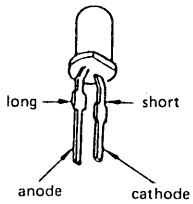
UZP-6.8B



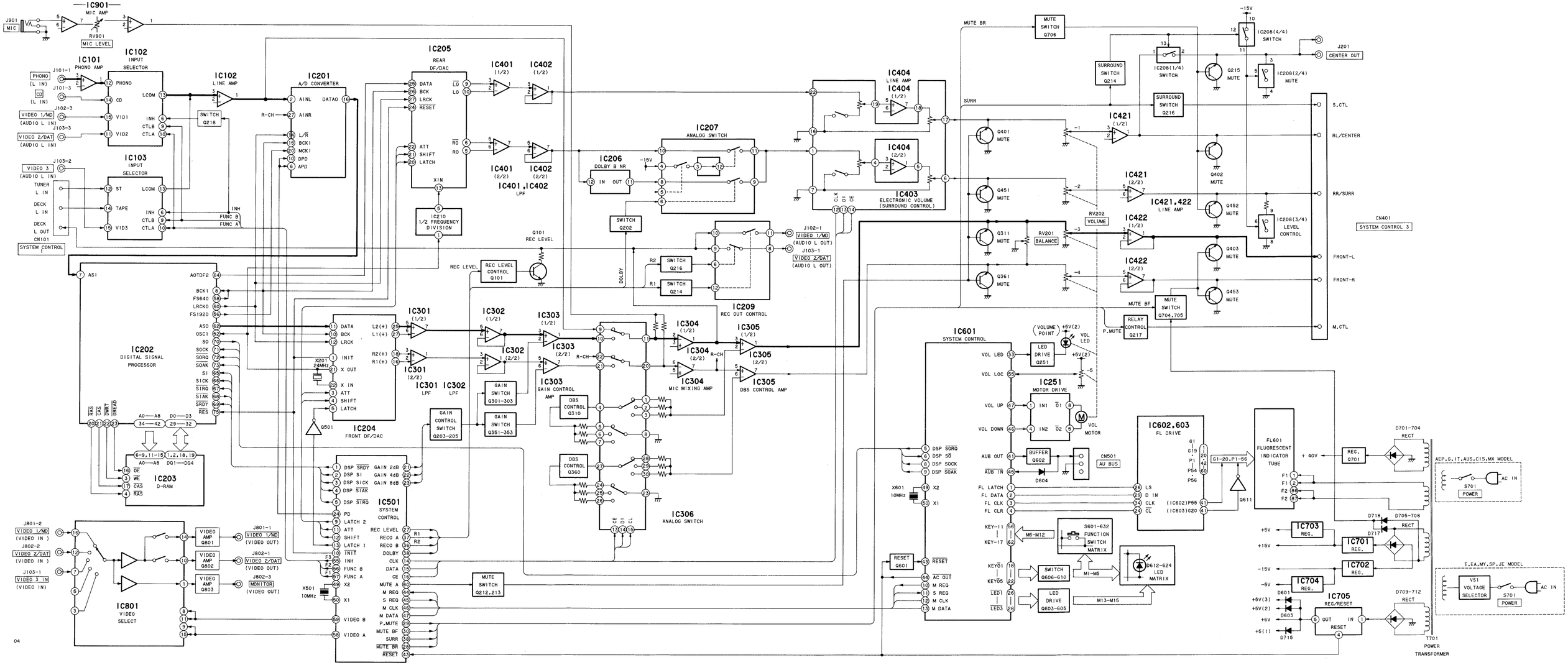
1N4148M



SEL2210S-C
SEL2510C-D
SEL3210S-CD



3-4. BLOCK DIAGRAM



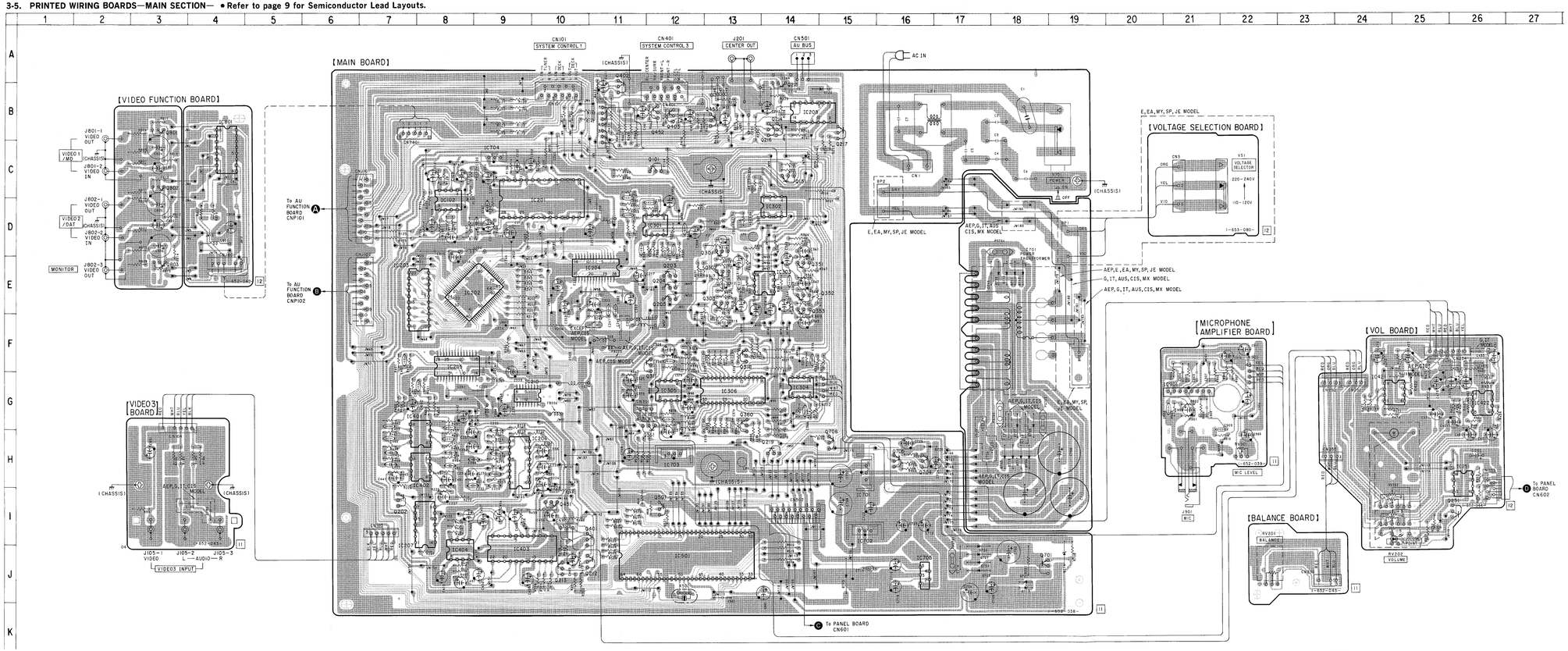
3-5. PRINTED WIRING BOARDS—MAIN SECTION— • Refer to page 9 for Semiconductor Lead Layouts.

• Semiconductor Location

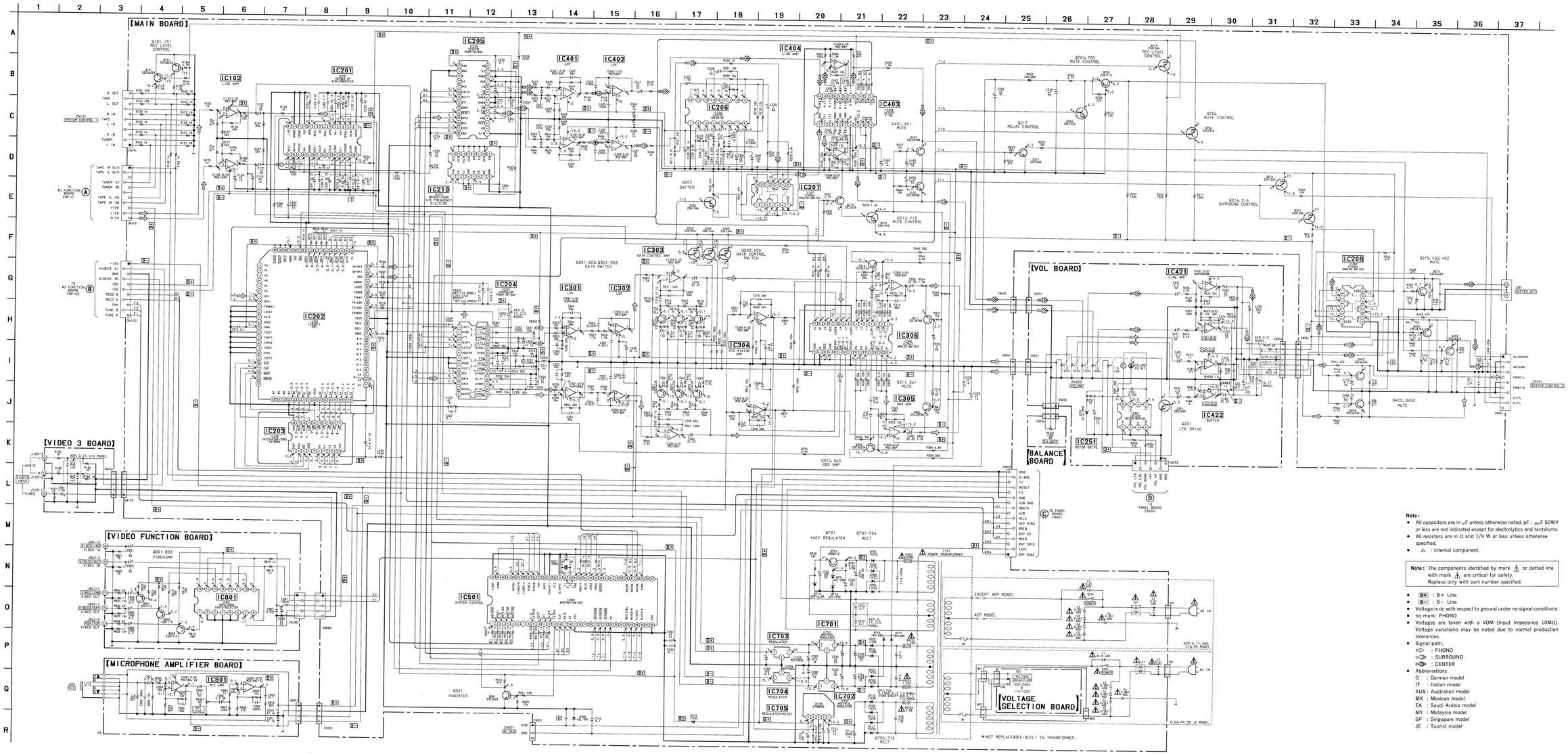
Ref. No.	Location	Ref. No.	Location
D251	I-25	IC701	H-15
D701	J-17	IC702	I-15
D702	J-17	IC703	H-12
D703	J-17	IC704	C-9
D704	J-17	IC705	J-16
D705	H-18	IC801	B-4
D706	H-18	IC901	G-21
D707	H-18		
D708	H-18	Q101	C-12
D709	E-18	Q151	C-14
D710	E-18	Q202	I-7
D711	E-18	Q203	E-12
D712	E-18	Q204	E-12
D713	J-18	Q205	E-12
D714	J-19	Q212	J-10
D715	J-15	Q213	J-10
D717	H-18	Q214	B-14
D718	H-18	Q215	B-14
D720	H-16	Q216	B-14
D721	J-18	Q217	B-15
D722	B-14	Q219	H-14
		Q251	I-25
IC102	C-8	Q301	D-13
IC201	D-10	Q302	E-13
IC202	E-8	Q303	E-13
IC203	E-7	Q310	E-13
IC204	E-10	Q311	F-11
IC205	F-8	Q351	E-14
IC206	H-9	Q352	E-14
IC207	I-7	Q353	E-14
IC208	B-14	Q360	G-13
IC210	G-9	Q361	G-11
IC251	H-26	Q401	I-10
IC301	D-11	Q402	B-11
IC302	D-14	Q403	B-12
IC303	E-14	Q451	I-10
IC304	D-14	Q452	B-12
IC305	G-12	Q453	B-13
IC306	G-13	Q501	I-12
IC401	G-7	Q701	J-11
IC402	H-7	Q704	H-16
IC403	J-9	Q705	H-16
IC404	J-8	Q706	H-15
IC421	G-24	Q801	B-3
IC422	G-26	Q802	C-3
IC501	J-12	Q803	E-3

Note :

- ○— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- Abbreviations
  - G : German model
  - IT : Italian model
  - AUS : Australian model
  - MX : Mexican model
  - EA : Saudi Arabia model
  - MY : Malaysia model
  - SP : Singapore model
  - JE : Tourist model



3-6. SCHEMATIC DIAGRAM—MAIN SECTION— • Refer to page 29 for IC Block Diagrams.



Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note : The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

- B+ : B+ Line
- B− : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: PHONO
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - : PHONO
  - : SURROUND
  - : CENTER
- Abbreviations
  - G : German model
  - IT : Italian model
  - AUS : Australian model
  - MX : Mexican model
  - EA : Saudi Arabia model
  - MY : Malaysia model
  - SP : Singapore model
  - JE : Tourist model

3-7. SCHEMATIC DIAGRAM—PANEL SECTION— • Refer to page 29 for IC Block Diagrams.

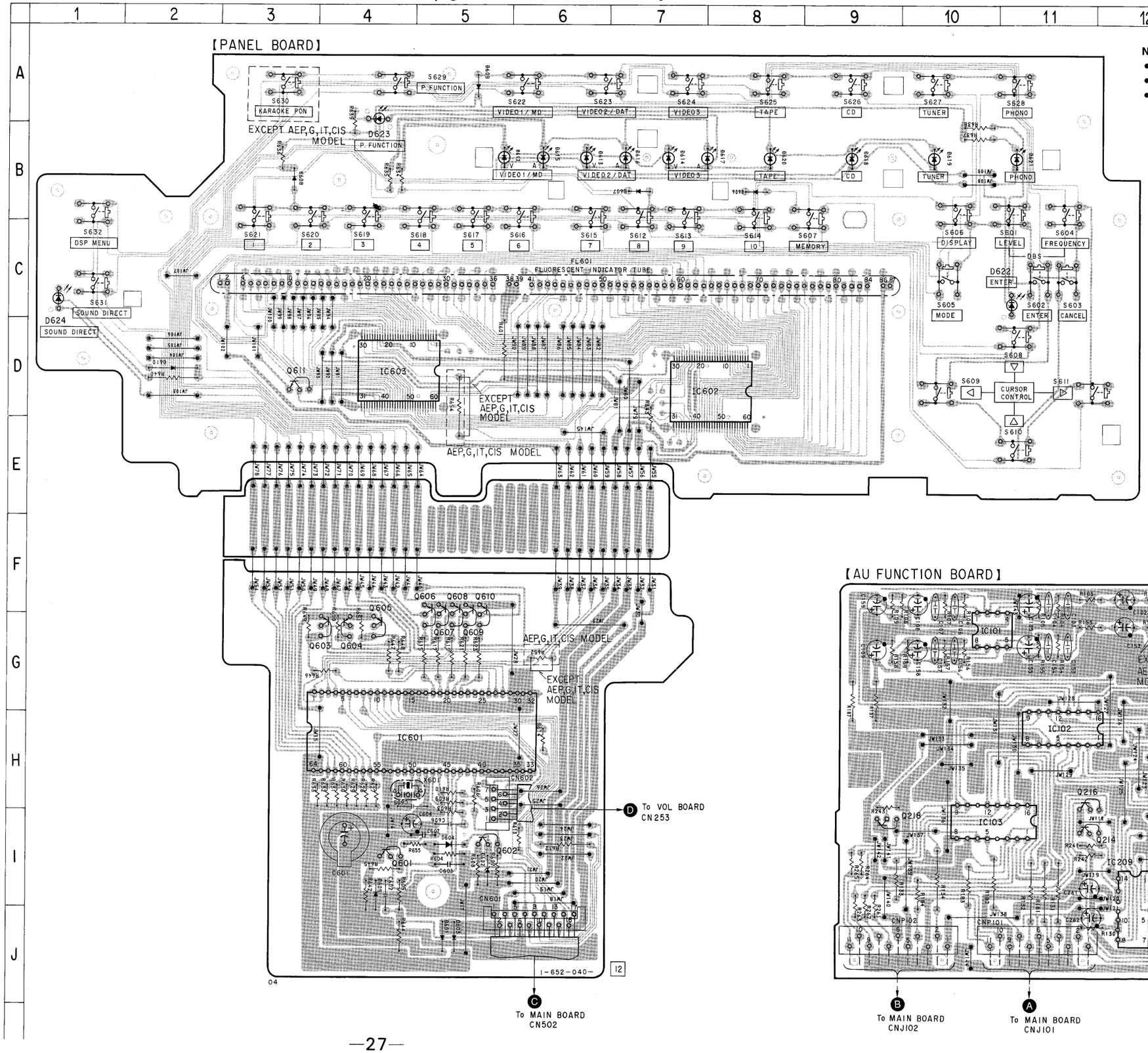
Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line
- B− : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: PHONO
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : PHONO
- Abbreviations
  AUS : Australian model
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  MX : Mexican model
  JE : Tourist model

【AU FUNCTION BOARD】

【PANEL BOARD】

3-8. PRINTED WIRING BOARDS—PANEL SECTION— • Refer to page 9 for Semiconductor Lead Layouts.

【PANEL BOARD】



【AU FUNCTION BOARD】

Note :

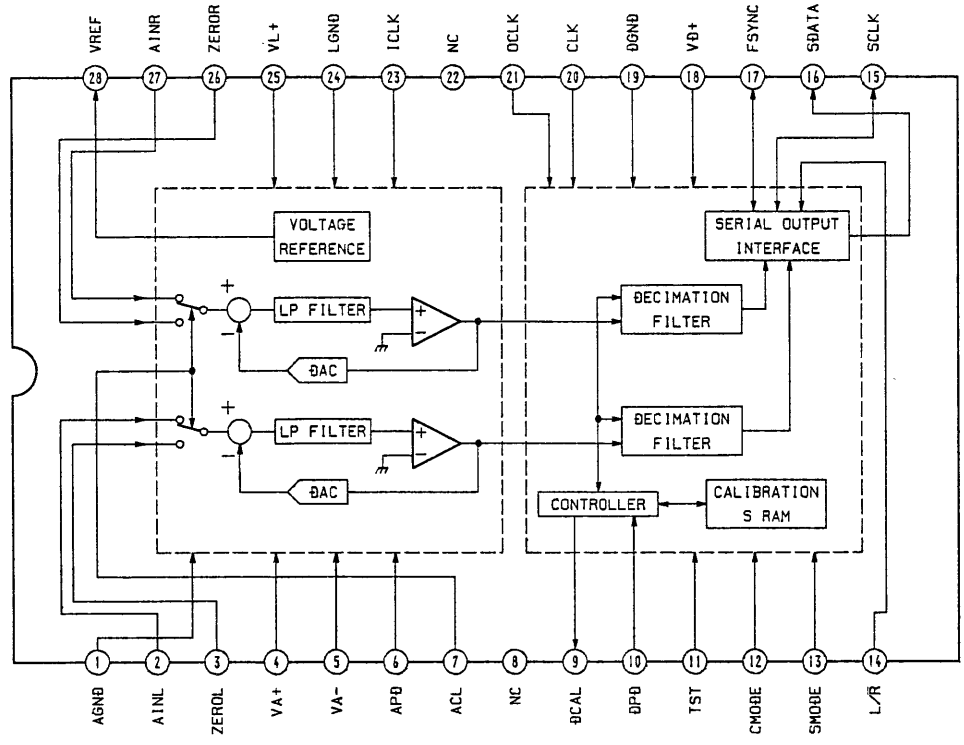
- ○— : parts extracted from the component side.
- ▒▒ : Pattern on the side which is seen.
- Abbreviations
  - AUS : Australian model
  - EA : Saudi Arabia model
  - MY : Malaysia model
  - SP : Singapore model
  - MX : Mexican model
  - JE : Tourist model

• Semiconductor Location

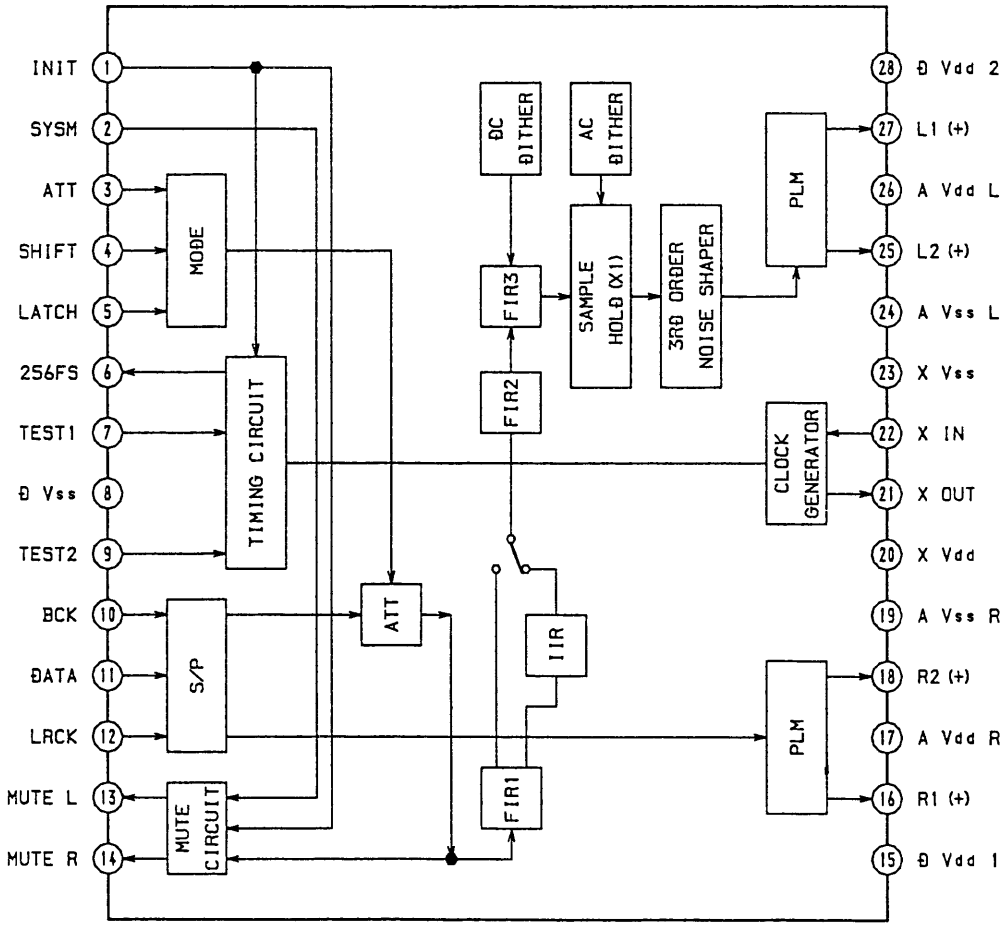
Ref. No.	Location
D601	J-5
D602	I-5
D603	J-5
D604	I-5
D605	I-4
D606	B-8
D607	B-7
D608	B-3
D609	A-5
D610	D-2
D612	B-5
D613	B-6
D614	B-7
D615	B-6
D616	B-7
D617	B-7
D618	B-10
D619	B-9
D620	B-8
D621	B-11
D622	C-11
D623	A-4
D624	C-1
IC101	G-10
IC102	H-11
IC103	I-10
IC209	I-12
IC601	H-4
IC602	D-7
IC603	D-4
Q214	H-11
Q216	I-11
Q218	I-9
Q601	I-4
Q602	I-5
Q603	G-4
Q604	G-4
Q605	G-4
Q606	F-5
Q607	F-5
Q608	F-5
Q609	F-5
Q610	F-5
Q611	D-3

• **IC Block Diagrams**

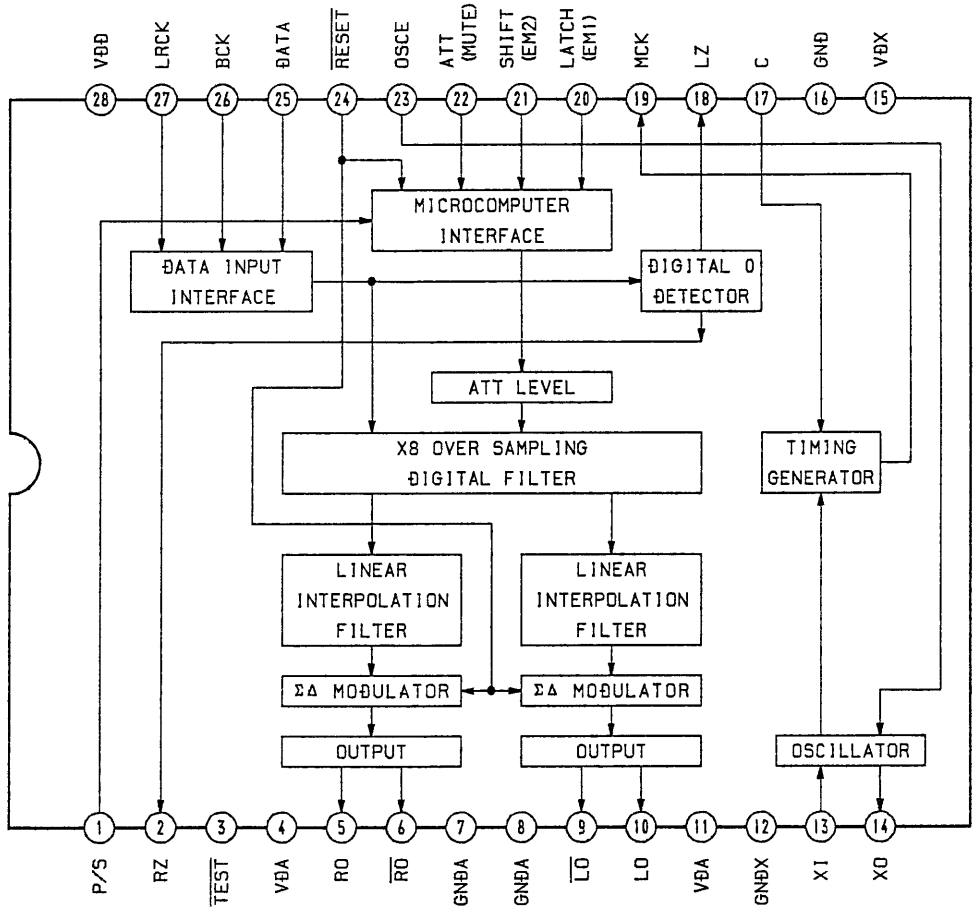
IC201 AK5369-VP



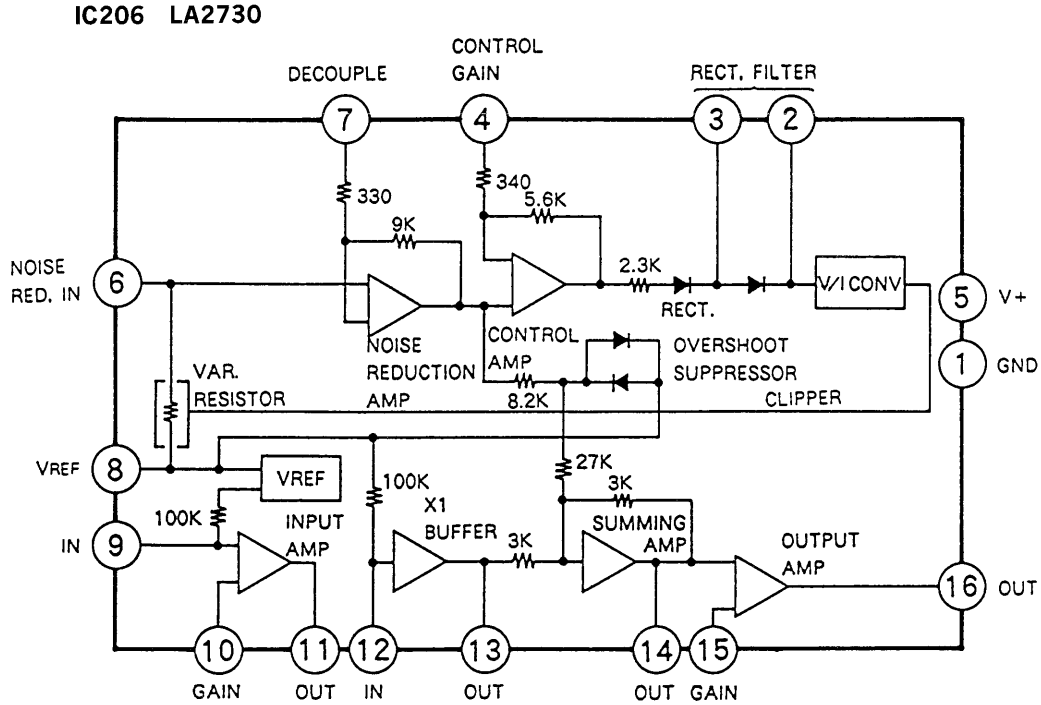
IC204 CXD2564AM



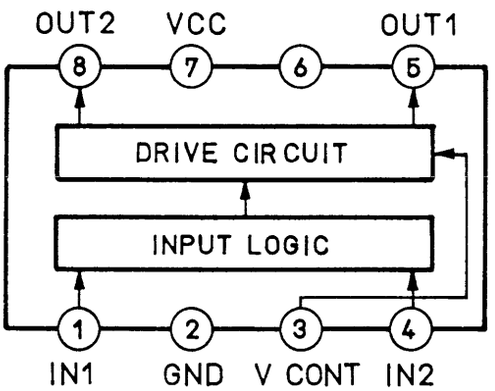
IC205 TC9270F



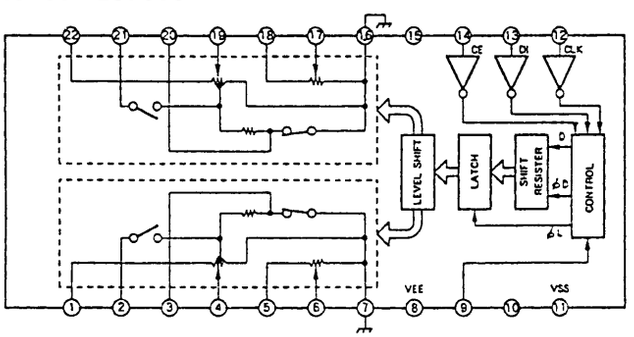
IC206 LA2730



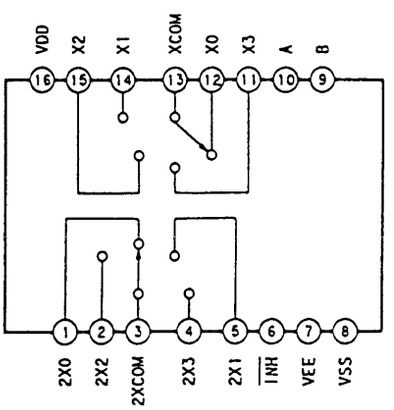
IC251 LB1639



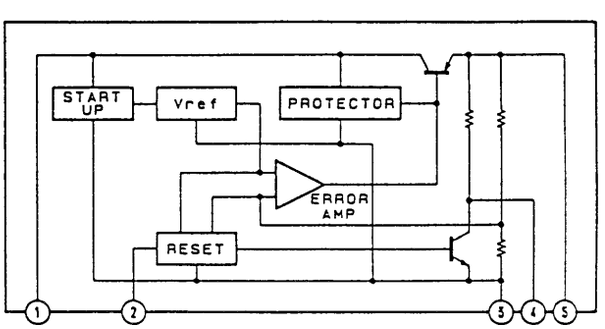
IC403 LC7535



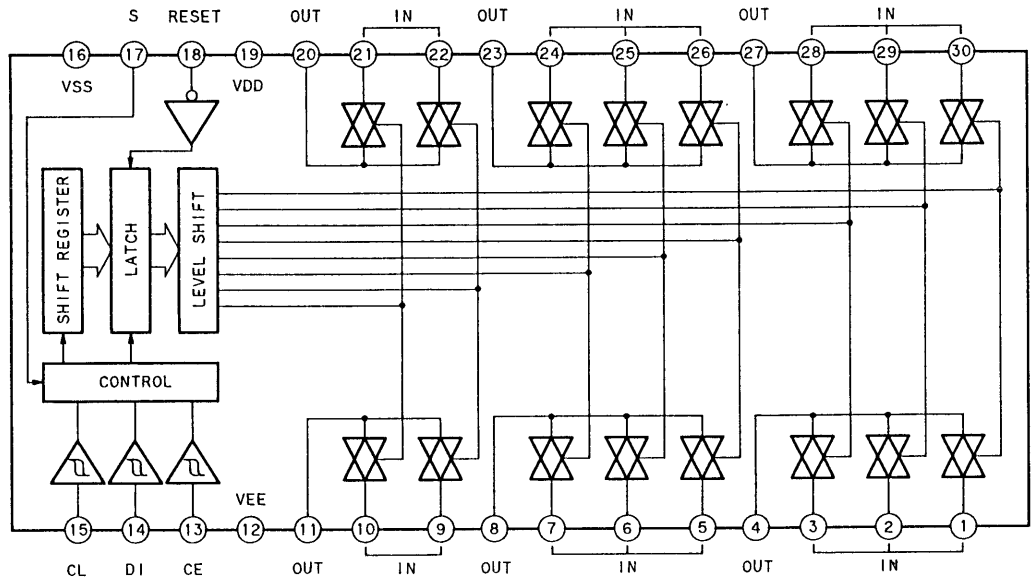
IC102, 103 MC14052 (AU FUNCTION board)



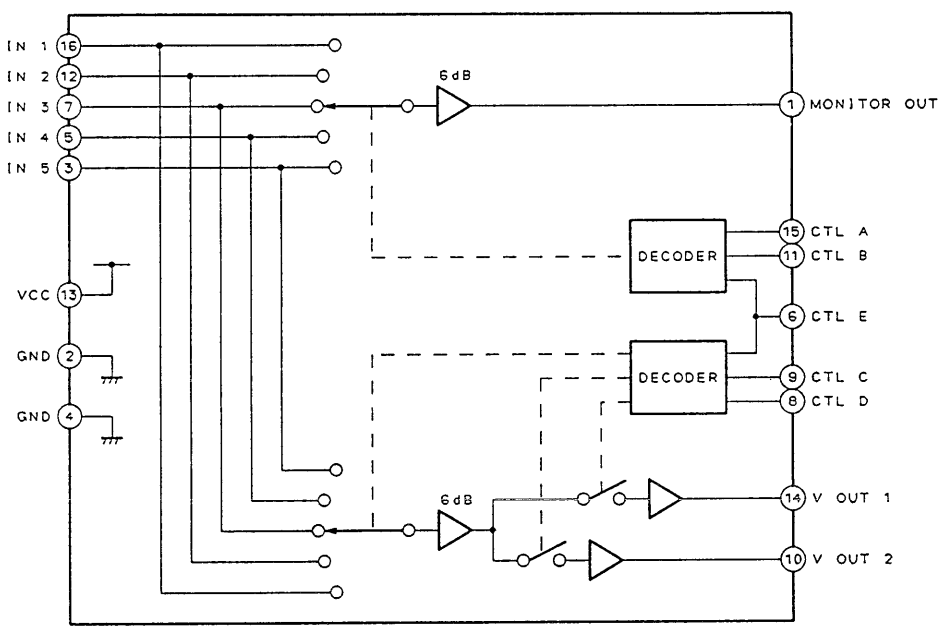
IC705 L78MR06



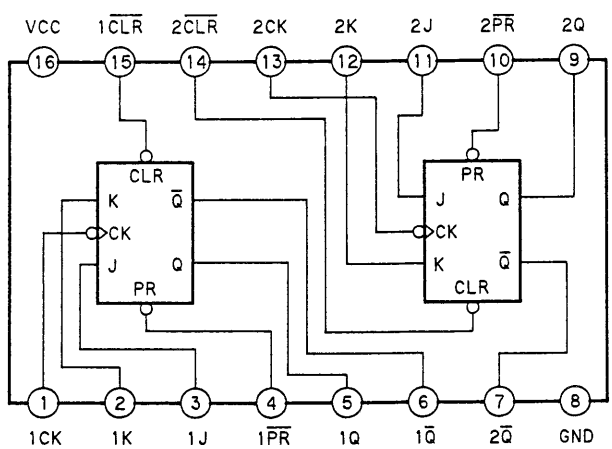
IC306 LC7822



IC801 SN761200N



IC210 SN74HC112ANS



SECTION 4
EXPLODED VIEWS

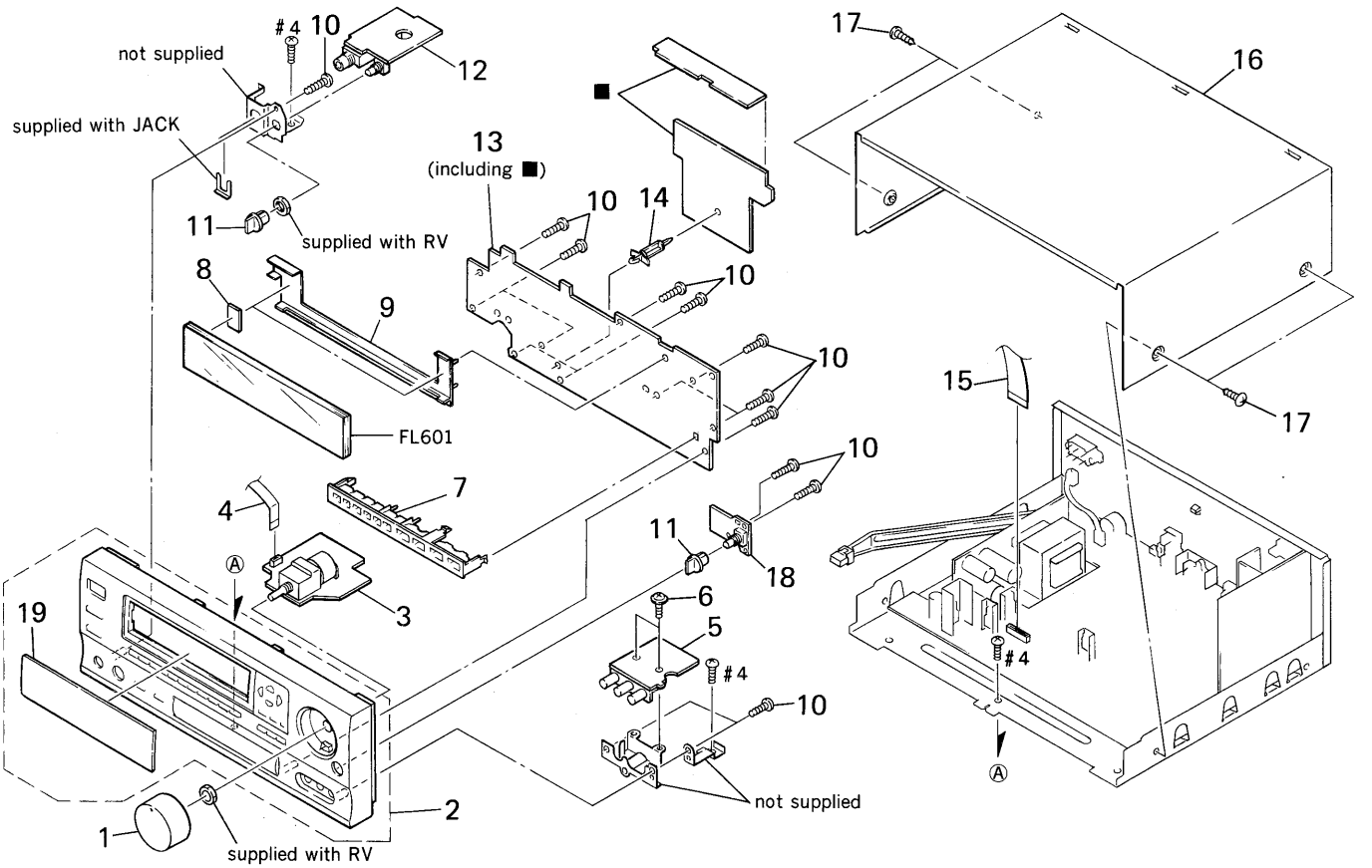
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

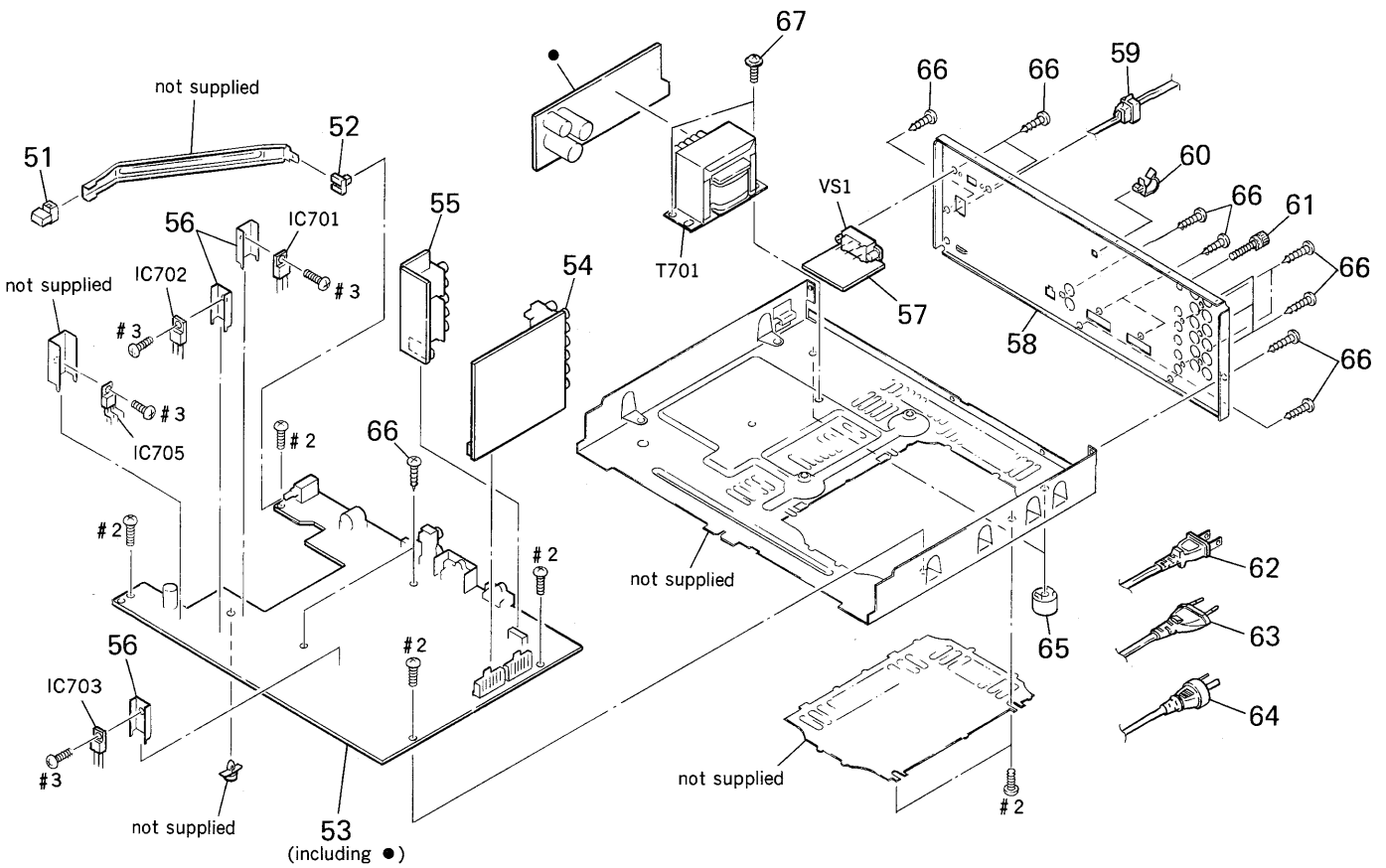
- Abbreviations
  G : German model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  MX : Mexican model
  JE : Tourist model

4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	X-4944-655-1	KNOB (VOL) ASSY	
2	X-4944-724-1	PANEL ASSY, FRONT (AEP, G, IT, CIS)	
2	X-4944-725-1	PANEL ASSY, FRONT (EXCEPT AEP, G, IT, CIS)	
* 3	A-4369-739-A	VOL BOARD, COMPLETE (AEP, CIS)	
* 3	A-4369-756-A	VOL BOARD, COMPLETE (G, IT)	
* 3	A-4369-759-A	VOL BOARD, COMPLETE (EXCEPT AEP, G, IT, CIS)	
4	1-690-635-11	WIRE, FLAT TYPE (7 CORE)	
* 5	1-652-043-11	VIDEO 3 BOARD	
6	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
7	4-965-240-01	HOLDER (FU), LED	
* 8	4-934-853-01	CUSHION	
9	4-965-239-01	HOLDER, FL TUBE	
10	4-951-620-01	SCREW (2.6X8), +BVTP	
11	4-950-652-01	KNOB (DIA. 12), ROUND	
* 12	1-652-039-11	MICROPHONE AMPLIFIER BOARD	
* 13	A-4369-728-A	PANEL BOARD, COMPLETE (AEP, G, IT, CIS)	
* 13	A-4369-763-A	PANEL BOARD, COMPLETE (EXCEPT AEP, G, IT, CIS)	
14	4-924-098-91	HOLDER, PC BOARD	
15	1-751-486-11	WIRE (FLAT TYPE) (17 CORE)	
* 16	4-939-803-71	CASE	
17	3-363-099-01	SCREW (CASE 3 TP2)	
* 18	1-652-045-11	BALANCE BOARD	
19	4-965-238-01	WINDOW	
FL601	1-517-302-11	INDICATOR TUBE, FLUORESCENT	

4-2. CHASSIS SECTION



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	4-964-965-01	BUTTON (POWER)	
52	4-866-342-00	JOINT (B), KNOB	
* 53	A-4369-726-A	MAIN BOARD, COMPLETE (AEP, CIS)	
* 53	A-4369-746-A	MAIN BOARD, COMPLETE (G, IT)	
* 53	A-4369-757-A	MAIN BOARD, COMPLETE (AUS)	
* 53	A-4369-762-A	MAIN BOARD, COMPLETE (E, EA, MY, SP, JE)	
* 53	A-4371-269-A	MAIN BOARD, COMPLETE (MX)	
* 54	A-4369-736-A	AU FUNCTION BOARD, COMPLETE (AEP, CIS)	
* 54	A-4369-754-A	AU FUNCTION BOARD, COMPLETE (G, IT)	
* 54	A-4369-760-A	AU FUNCTION BOARD, COMPLETE (EXCEPT AEP, G, IT, CIS)	
* 55	1-652-042-11	VIDEO FUNCTION BOARD	
* 56	3-309-144-21	HEAT SINK	
* 57	1-653-080-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
* 58	4-965-243-01	PANEL (B3120), BACK (AEP)	
* 58	4-965-243-21	PANEL (B3120), BACK (G)	
* 58	4-965-243-31	PANEL (B3120), BACK (AUS)	
* 58	4-965-243-41	PANEL (B3120), BACK (E, EA, MY, SP, JE)	
* 58	4-965-243-51	PANEL (B3120), BACK (MX)	
* 58	4-965-243-61	PANEL (B3120), BACK (IT, CIS)	

Ref. No.	Part No.	Description	Remark
* 59	3-703-244-00	BUSHING (2104), CORD (AEP, G, IT, AUS, EA, MY, SP, CIS)	
* 59	3-703-571-11	BUSHING (S) (4516), CORD (E, MX, JE)	
* 60	4-949-235-01	HOOK	
61	4-947-010-01	SCREW, FEEDER FIXED	
⚠62	1-575-656-11	CORD, POWER (E, MX, JE)	
⚠63	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
⚠64	1-751-355-11	CORD, POWER (AUS)	
65	4-931-169-01	FOOT	
66	3-704-515-11	SCREW (BV/RING)	
67	4-946-541-01	SCREW (4X8), +PWHTT	
IC701	8-759-231-59	IC TA7815S	
IC702	8-759-245-87	IC TA79015S	
IC703	8-759-231-53	IC TA7805S	
IC705	8-759-820-13	IC L78MR06	
⚠T701	1-426-724-11	TRANSFORMER, POWER (E, EA, MY, SP, MX, JE)	
⚠T701	1-426-725-11	TRANSFORMER, POWER (AEP, G, IT, AUS, CIS)	
⚠VS1	1-572-367-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E, EA, MY, SP, JE)	

SECTION 5
ELECTRICAL PARTS LIST

AU FUNCTION

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA . . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. . uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

- Abbreviations
  G : German model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  MX : Mexican model
  JE : Tourist model

Ref. No.	Part No.	Description			Remark
*	A-4369-736-A	AU FUNCTION BOARD, COMPLETE (AEP, CIS)			
*	A-4369-754-A	AU FUNCTION BOARD, COMPLETE (G, IT)			
*	A-4369-760-A	AU FUNCTION BOARD, COMPLETE (E, AUS, EA, MY, SP, MX, JE)			
		**********			
		< CAPACITOR >			
C101	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C102	1-126-161-11	ELECT	2.2uF	20%	50V
C103	1-164-070-11	CERAMIC	100PF	5%	50V
C104	1-164-066-11	CERAMIC	68PF	5%	50V
C105	1-126-022-11	ELECT	47uF	20%	10V
C106	1-130-480-00	MYLAR	0.0056uF	5%	50V
C107	1-106-347-00	MYLAR	0.0015uF	5%	200V
C108	1-124-464-11	ELECT	0.22uF	20%	50V
C109	1-126-022-11	ELECT	47uF	20%	10V
C110	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C112	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C114	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C116	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C117	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C151	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C152	1-126-161-11	ELECT	2.2uF	20%	50V
C153	1-164-070-11	CERAMIC	100PF	5%	50V
C154	1-164-066-11	CERAMIC	68PF	5%	50V
C155	1-126-022-11	ELECT	47uF	20%	10V
C156	1-130-480-00	MYLAR	0.0056uF	5%	50V
C157	1-106-347-00	MYLAR	0.0015uF	5%	200V
C158	1-124-464-11	ELECT	0.22uF	20%	50V
C159	1-126-022-11	ELECT	47uF	20%	10V
C160	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C162	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C164	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C166	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C167	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C261	1-126-022-11	ELECT	47uF	20%	16V
C262	1-126-022-11	ELECT	47uF	20%	16V
		< CONNECTOR >			
CNP101	1-766-327-11	CONNECTOR, BOARD TO BOARD 11P			
CNP102	1-766-327-11	CONNECTOR, BOARD TO BOARD 11P			
		< IC >			
IC101	8-759-636-74	IC M5218AP-22			
IC102	8-759-000-48	IC MC14052BCP			
IC103	8-759-000-48	IC MC14052BCP			
IC209	8-759-801-01	IC LC4966			
		< JACK >			
J101	1-573-520-11	JACK, PIN 4P (PHONO/CD)			
J102	1-573-520-11	JACK, PIN 4P (VIDEO 1 MD/DAT)			
J103	1-573-520-11	JACK, PIN 4P (VIDEO 2/DAT)			
		< TRANSISTOR >			
Q214	8-729-900-63	TRANSISTOR DTA124ES			
Q216	8-729-900-63	TRANSISTOR DTA124ES			
Q218	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R101	1-249-417-11	CARBON (AEP, G, IT, CIS)	1K	5%	1/4W
R102	1-249-441-11	CARBON	100K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-249-441-11	CARBON	100K	5%	1/4W
R105	1-249-416-11	CARBON	820	5%	1/4W
R106	1-247-897-11	CARBON	560K	5%	1/4W
R107	1-249-437-11	CARBON	47K	5%	1/4W
R108	1-249-441-11	CARBON	100K	5%	1/4W
R109	1-249-417-11	CARBON	1K	5%	1/4W
R110	1-249-425-11	CARBON	4.7K	5%	1/4W

AU FUNCTION | BALANCE | MAIN

Ref. No.	Part No.	Description			Remark
R111	1-249-427-11	CARBON	6.8K	5%	1/4W
R112	1-249-425-11	CARBON	4.7K	5%	1/4W
R113	1-249-427-11	CARBON	6.8K	5%	1/4W
R114	1-249-425-11	CARBON	4.7K	5%	1/4W
R115	1-249-427-11	CARBON	6.8K	5%	1/4W
R116	1-249-413-11	CARBON	470	5%	1/4W
R117	1-247-903-00	CARBON	1M	5%	1/4W
R118	1-249-413-11	CARBON	470	5%	1/4W
R119	1-247-903-00	CARBON	1M	5%	1/4W
R130-134					
	1-247-807-31	CARBON	100	5%	1/4W
R137	1-249-403-11	CARBON	68	5%	1/4W
R151	1-249-417-11	CARBON (AEP, G, IT, CIS)	1K	5%	1/4W
R152	1-249-441-11	CARBON	100K	5%	1/4W
R153	1-249-417-11	CARBON	1K	5%	1/4W
R154	1-249-441-11	CARBON	100K	5%	1/4W
R155	1-249-416-11	CARBON	820	5%	1/4W
R156	1-247-897-11	CARBON	560K	5%	1/4W
R157	1-249-437-11	CARBON	47K	5%	1/4W
R158	1-249-441-11	CARBON	100K	5%	1/4W
R159	1-249-417-11	CARBON	1K	5%	1/4W
R160	1-249-425-11	CARBON	4.7K	5%	1/4W
R161	1-249-427-11	CARBON	6.8K	5%	1/4W
R162	1-249-425-11	CARBON	4.7K	5%	1/4W
R163	1-249-427-11	CARBON	6.8K	5%	1/4W
R164	1-249-425-11	CARBON	4.7K	5%	1/4W
R165	1-249-427-11	CARBON	6.8K	5%	1/4W
R166	1-249-413-11	CARBON	470	5%	1/4W
R167	1-247-903-00	CARBON	1M	5%	1/4W
R168	1-249-413-11	CARBON	470	5%	1/4W
R169	1-247-903-00	CARBON	1M	5%	1/4W
R180-184					
	1-247-807-31	CARBON	100	5%	1/4W
R187	1-249-403-11	CARBON	68	5%	1/4W
R241-243					
	1-249-437-11	CARBON	47K	5%	1/4W
R261-265					
	1-249-417-11	CARBON	1K	5%	1/4W
**********					
*	1-652-045-11	BALANCE BOARD			
		**********			
		< VARIABLE RESISTOR >			
RV201	1-241-385-11	RES, VAR, CARBON	100K (BALANCE)		
**********					

Ref. No.	Part No.	Description	Remark
*	A-4369-726-A	MAIN BOARD, COMPLETE (AEP, CIS)	
*	A-4369-746-A	MAIN BOARD, COMPLETE (G, IT)	
*	A-4369-757-A	MAIN BOARD, COMPLETE (AUS)	
*	A-4369-762-A	MAIN BOARD, COMPLETE (E, EA, MY, SP, JE)	
*	A-4371-269-A	MAIN BOARD, COMPLETE (MX)	
		**********	
*	3-309-144-21	HEAT SINK	
*	4-870-539-00	PLATE, GROUND	
	7-682-548-04	SCREW +BVTT 3X8 (S)	
		< TERMINAL >	
* BP2	1-560-595-00	TERMINAL (WITH BASE) (E, EA, MY, SP, JE)	
* BP3	1-560-595-00	TERMINAL (WITH BASE) (E, EA, MY, SP, JE)	
		< CAPACITOR >	

⚠C1	1-161-744-51	CERAMIC	0.01uF		400V
⚠C2-6					
	1-161-741-00	CERAMIC	0.001uF	10%	400V
⚠C7	1-161-744-51	CERAMIC	0.01uF		400V
C119	1-126-022-11	ELECT	47uF	20%	10V
C120	1-136-153-00	FILM	0.01uF	5%	50V
C121	1-126-059-11	ELECT	10uF	20%	50V
C137	1-136-153-00	FILM	0.01uF	5%	50V
C169	1-126-022-11	ELECT	47uF	20%	10V
C170	1-136-153-00	FILM	0.01uF	5%	50V
C171	1-126-059-11	ELECT	10uF	20%	50V
C187	1-136-153-00	FILM	0.01uF	5%	50V
C202	1-126-022-11	ELECT	47uF	20%	10V
C203	1-164-159-11	CERAMIC	0.1uF		50V
C204	1-164-159-11	CERAMIC	0.1uF		50V
C205	1-126-022-11	ELECT	47uF	20%	10V
C207	1-126-049-11	ELECT	22uF	20%	25V
C208	1-164-159-11	CERAMIC	0.1uF		50V
C209	1-126-049-11	ELECT	22uF	20%	25V
C210	1-164-159-11	CERAMIC	0.1uF		50V
C212	1-164-159-11	CERAMIC	0.1uF		50V
C213	1-126-022-11	ELECT	47uF	20%	10V
C214	1-164-159-11	CERAMIC	0.1uF		50V
C215	1-164-159-11	CERAMIC	0.1uF		50V
C216	1-126-022-11	ELECT	47uF	20%	10V
C217	1-126-022-11	ELECT	47uF	20%	10V
C218	1-164-159-11	CERAMIC	0.1uF		50V
C219	1-126-022-11	ELECT	47uF	20%	10V
C220	1-164-159-11	CERAMIC	0.1uF		50V
C221	1-164-159-11	CERAMIC	0.1uF		50V
C222	1-124-587-11	ELECT	220uF	20%	6.3V
C223	1-126-022-11	ELECT	47uF	20%	10V
C224	1-164-159-11	CERAMIC	0.1uF		50V
C225	1-126-022-11	ELECT	47uF	20%	10V

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
C226	1-164-159-11	CERAMIC	0.1uF		50V
C227	1-126-301-11	ELECT	1uF	20%	50V
C228	1-126-023-11	ELECT	100uF	20%	16V
C229	1-136-171-00	FILM	0.33uF	5%	50V
C230	1-136-165-00	FILM	0.1uF	5%	50V
C231	1-126-301-11	ELECT	1uF	20%	50V
C232	1-136-159-00	FILM	0.033uF	5%	50V
C233	1-136-158-00	FILM	0.027uF	5%	50V
C234	1-106-359-00	MYLAR	0.0047uF	5%	200V
C235	1-130-482-00	MYLAR	0.0082uF	5%	50V
C236	1-126-049-11	ELECT	22uF	20%	25V
C237	1-126-023-11	ELECT	100uF	20%	16V
C238	1-126-301-11	ELECT	1uF	20%	50V
C239	1-126-301-11	ELECT	1uF	20%	50V
C240	1-164-013-11	CERAMIC	4PF	0.25PF	50V
C241	1-164-015-11	CERAMIC	6PF	0.5PF	50V
C242	1-126-163-11	ELECT	4.7uF	20%	50V
C244	1-162-294-31	CERAMIC	0.001uF	10%	50V
C246-248					
	1-162-286-31	CERAMIC	220PF	10%	50V
C249	1-164-159-11	CERAMIC	0.1uF		50V
C250	1-162-286-31	CERAMIC	220PF	10%	50V
C251	1-162-286-31	CERAMIC	220PF	10%	50V
C253	1-164-159-11	CERAMIC	0.1uF		50V
		(AEP, G, IT, CIS)			
C254	1-164-159-11	CERAMIC	0.1uF		50V
C255	1-164-159-11	CERAMIC	0.1uF		50V
C261	1-164-159-11	CERAMIC	0.1uF		50V
C262	1-162-286-31	CERAMIC	220PF	10%	50V
C301	1-164-068-11	CERAMIC	82PF	5%	50V
C302	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C303	1-126-022-11	ELECT	47uF	20%	10V
C304	1-164-057-11	CERAMIC	30PF	5%	50V
C305	1-164-057-11	CERAMIC	30PF	5%	50V
C306	1-106-359-00	MYLAR	0.0047uF	5%	200V
C307	1-130-472-00	MYLAR	0.0012uF	5%	50V
C308	1-126-022-11	ELECT	47uF	20%	16V
C309	1-164-066-11	CERAMIC	68PF	5%	50V
C310	1-126-022-11	ELECT	47uF	20%	16V
C311-313					
	1-126-301-11	ELECT	1uF	20%	50V
C314	1-126-049-11	ELECT	22uF	20%	25V
C316	1-164-066-11	CERAMIC	68PF	5%	50V
C318	1-126-022-11	ELECT	47uF	20%	16V
C319	1-164-066-11	CERAMIC	68PF	5%	50V
C323	1-136-841-81	FILM	0.39uF	5%	50V
C324	1-136-164-00	FILM	0.082uF	5%	50V
C325	1-126-301-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C328	1-126-049-11	ELECT	22uF	20%	25V
C329	1-126-022-11	ELECT	47uF	20%	16V
C351	1-164-068-11	CERAMIC	82PF	5%	50V
C352	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C353	1-126-022-11	ELECT	47uF	20%	10V
C354	1-164-057-11	CERAMIC	30PF	5%	50V
C355	1-164-057-11	CERAMIC	30PF	5%	50V
C356	1-106-359-00	MYLAR	0.0047uF	5%	200V
C357	1-130-472-00	MYLAR	0.0012uF	5%	50V
C358	1-126-022-11	ELECT	47uF	20%	16V
C359	1-164-066-11	CERAMIC	68PF	5%	50V
C360	1-126-022-11	ELECT	47uF	20%	16V
C361-363					
	1-126-301-11	ELECT	1uF	20%	50V
C364	1-126-049-11	ELECT	22uF	20%	25V
C366	1-164-066-11	CERAMIC	68PF	5%	50V
C368	1-126-022-11	ELECT	47uF	20%	16V
C369	1-164-066-11	CERAMIC	68PF	5%	50V
C373	1-136-841-81	FILM	0.39uF	5%	50V
C374	1-136-164-00	FILM	0.082uF	5%	50V
C375	1-126-301-11	ELECT	1uF	20%	50V
C378	1-126-049-11	ELECT	22uF	20%	25V
C379	1-126-022-11	ELECT	47uF	20%	16V
C401	1-164-077-11	CERAMIC	220PF	10%	50V
C402	1-164-060-11	CERAMIC	39PF	5%	50V
C403	1-164-060-11	CERAMIC	39PF	5%	50V
C404	1-106-359-00	MYLAR	0.0047uF	5%	200V
C405	1-130-472-00	MYLAR	0.0012uF	5%	50V
C406-408					
	1-126-059-11	ELECT	10uF	20%	50V
C409	1-126-300-11	ELECT	0.47uF	20%	50V
C410	1-126-022-11	ELECT	47uF	20%	16V
C411	1-126-163-11	ELECT	4.7uF	20%	50V
C412	1-126-163-11	ELECT	4.7uF	20%	50V
C441	1-126-049-11	ELECT	22uF	20%	25V
C442	1-126-022-11	ELECT	47uF	20%	16V
C451	1-164-077-11	CERAMIC	220PF	10%	50V
C452	1-164-060-11	CERAMIC	39PF	5%	50V
C453	1-164-060-11	CERAMIC	39PF	5%	50V
C454	1-106-359-00	MYLAR	0.0047uF	5%	200V
C455	1-130-472-00	MYLAR	0.0012uF	5%	50V
C456-458					
	1-126-059-11	ELECT	10uF	20%	50V
C459	1-126-300-11	ELECT	0.47uF	20%	50V
C460	1-126-022-11	ELECT	47uF	20%	16V
C461	1-126-163-11	ELECT	4.7uF	20%	50V
C462	1-126-163-11	ELECT	4.7uF	20%	50V
C491	1-126-049-11	ELECT	22uF	20%	25V
C492	1-126-022-11	ELECT	47uF	20%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C501	1-126-022-11	ELECT	47uF	20%	10V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C702	1-124-920-11	ELECT	330uF	20%	63V
C703	1-126-233-11	ELECT	22uF	20%	50V
C704	1-124-122-11	ELECT	100uF	20%	50V
C705	1-126-860-11	ELECT	3300uF	20%	35V
C706	1-126-860-11	ELECT	3300uF	20%	35V
C707	1-126-012-11	ELECT	470uF	20%	16V
C708	1-126-012-11	ELECT	470uF	20%	16V
C709	1-124-443-00	ELECT	100uF	20%	10V
C710	1-164-159-11	CERAMIC	0.1uF		50V
C711	1-124-887-00	ELECT	3300uF	20%	16V
C712	1-126-022-11	ELECT	47uF	20%	16V
C713	1-124-463-00	ELECT	0.1uF	20%	50V
C714	1-136-161-00	FILM	0.047uF	5%	50V
C715	1-124-994-11	ELECT	100uF	20%	10V
C716	1-161-377-00	CERAMIC	0.0047uF	30%	50V
C717	1-161-377-00	CERAMIC (EXCEPT AEP, G, IT, CIS)	0.0047uF	30%	50V
C717	1-164-159-11	CERAMIC (AEP, G, IT, CIS)	0.1uF		50V
C718	1-161-377-00	CERAMIC (EXCEPT AEP, G, IT, CIS)	0.0047uF	30%	50V
C718	1-164-159-11	CERAMIC (AEP, G, IT, CIS)	0.1uF		50V
C719	1-161-377-00	CERAMIC	0.0047uF	30%	50V
C722	1-126-059-11	ELECT	10uF	20%	50V
C723	1-126-059-11	ELECT	10uF	20%	50V
C724	1-124-910-11	ELECT	47uF	20%	50V
C725	1-124-910-11	ELECT	47uF	20%	50V
C726	1-136-165-00	FILM (AEP, G, IT, CIS)	0.1uF	5%	50V
C727	1-136-165-00	FILM (AEP, G, IT, CIS)	0.1uF	5%	50V
		< CONNECTOR >			
CN1	1-564-321-00	PIN, CONNECTOR 2P			
* CN2	1-564-321-21	PIN, CONNECTOR 2P (E, EA, MY, SP, JE)			
* CN101	1-566-858-41	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 1)			
* CN102	1-564-507-11	PLUG, CONNECTOR 4P			
* CN103	1-564-508-11	PLUG, CONNECTOR 5P			
CN201	1-564-510-11	PLUG, CONNECTOR 7P			
* CN301	1-564-506-11	PLUG, CONNECTOR 3P			
* CN401	1-566-858-31	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 3)			
* CN402	1-564-506-11	PLUG, CONNECTOR 3P			
* CN501	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)			
* CN502	1-568-836-11	SOCKET, CONNECTOR 17P			
CNJ101	1-766-328-11	CONNECTOR, BOARD TO BOARD 11P			
CNJ102	1-766-328-11	CONNECTOR, BOARD TO BOARD 11P			
CNP801	1-569-491-11	SOCKET, CONNECTOR 5P			
		< DIODE >			
D701	8-719-200-82	DIODE	11ES2		
D702	8-719-200-82	DIODE	11ES2		
D703	8-719-200-82	DIODE	11ES2		
D704	8-719-200-82	DIODE	11ES2		
D705	8-719-200-82	DIODE	11ES2		
D706	8-719-200-82	DIODE	11ES2		
D707	8-719-200-82	DIODE	11ES2		
D708	8-719-200-82	DIODE	11ES2		
D709	8-719-200-82	DIODE	11ES2		
D710	8-719-200-82	DIODE	11ES2		
D711	8-719-200-82	DIODE	11ES2		
D712	8-719-200-82	DIODE	11ES2		
D713	8-719-002-21	DIODE	UZL-20H		
D714	8-719-014-82	DIODE	UZP-6.8B		
D715	8-719-200-82	DIODE	11ES2		
D717	8-719-987-63	DIODE	1N4148M		
D718	8-719-987-63	DIODE	1N4148M		
D720	8-719-987-63	DIODE	1N4148M		
D721	8-719-002-21	DIODE	UZL-20H		
D722	8-719-000-84	DIODE	UZL-7M1		
		< COIL >			
FB201	1-412-473-21	INDUCTOR	0UH		
FB202	1-412-473-21	INDUCTOR	0UH		
FB205	1-412-473-51	INDUCTOR	0UH (AEP, CIS)		
FB206	1-412-473-51	INDUCTOR	0UH		
FB207	1-412-473-51	INDUCTOR	0UH		
		< IC >			
IC102	8-759-634-51	IC	M5218AP		
IC201	8-759-191-20	IC	AK5369VP		
IC202	8-759-075-34	IC	LC83015		
IC203	8-759-158-10	IC	CAT154256B-70RS		
IC204	8-752-359-50	IC	CXD2564AM		
IC205	8-759-188-07	IC	TC9270F-ELP		
IC206	8-759-823-24	IC	LA2730		
IC207	8-759-801-01	IC	LC4966		
IC208	8-759-801-01	IC	LC4966		
IC210	8-759-926-02	IC	SN74HC112ANS		
IC301	8-759-711-35	IC	NJM4580D		
IC302-305	8-759-634-51	IC	M5218AP		
IC306	8-759-805-14	IC	LC7822		
IC401	8-759-634-51	IC	M5218AP		
IC402	8-759-634-51	IC	M5218AP		
IC403	8-759-820-11	IC	LC7535		

Ref. No.	Part No.	Description	Remark
IC404	8-759-634-51	IC M5218AP	
IC501	8-759-262-32	IC uPD78014CW-057	
IC701	8-759-231-59	IC TA7815S	
IC702	8-759-245-87	IC TA79015S	
IC703	8-759-231-53	IC TA7805S	
IC704	8-759-245-79	IC TA79005S	
IC705	8-759-820-13	IC L78MR06	
		< JACK >	
J201	1-565-352-51	JACK, PIN 2P (MIC)	
		< COIL >	
L201	1-410-517-11	INDUCTOR 47uH	
L202	1-410-517-11	INDUCTOR 47uH	
L203	1-410-517-11	INDUCTOR 47uH (EXCEPT AEP, CIS)	
L204	1-410-517-11	INDUCTOR 47uH	
		< LINE FILTER >	
⚠LF1	1-424-117-11	FILTER, LINE	
		< IC LINK >	
⚠PS701	1-532-835-41	LINK, IC	
⚠PS702	1-532-840-41	LINK, IC	
⚠PS703	1-532-840-41	LINK, IC	
⚠PS704	1-532-843-11	LINK, IC	
		< TRANSISTOR >	
Q101	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q151	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q202	8-729-900-63	TRANSISTOR DTA124ES	
Q203	8-729-900-63	TRANSISTOR DTA124ES	
Q204	8-729-900-63	TRANSISTOR DTA124ES	
Q205	8-729-900-63	TRANSISTOR DTA124ES	
Q212	8-729-900-63	TRANSISTOR DTA124ES	
Q213	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q214	8-729-900-63	TRANSISTOR DTA124ES	
Q215	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q216	8-729-900-63	TRANSISTOR DTA124ES	
Q217	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q219	8-729-900-63	TRANSISTOR DTA124ES	
Q301	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q302	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q303	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q310	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q311	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q351	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q352	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q353	8-729-141-26	TRANSISTOR 2SC3622A-LK	

Ref. No.	Part No.	Description	Remark
Q360	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q361	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q401	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q402	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q403	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q451	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q452	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q453	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q501	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q701	8-729-209-15	TRANSISTOR 2SD2012	
Q704	8-729-900-80	TRANSISTOR DTC114ES	
Q705	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q706	8-729-900-63	TRANSISTOR DTA124ES	
		< RESISTOR >	
R120	1-249-417-11	CARBON 1K 5% 1/4W	
R121	1-247-903-00	CARBON 1M 5% 1/4W	
R122	1-249-417-11	CARBON 1K 5% 1/4W	
R123	1-247-903-00	CARBON 1M 5% 1/4W	
R125	1-249-417-11	CARBON 1K 5% 1/4W	
R126	1-249-437-11	CARBON 47K 5% 1/4W	
R127	1-249-438-11	CARBON 56K 5% 1/4W	
R128	1-249-437-11	CARBON 47K 5% 1/4W	
R129	1-249-401-11	CARBON 47 5% 1/4W	
R130	1-247-807-31	CARBON 100 5% 1/4W	
R137	1-249-435-11	CARBON 33K 5% 1/4W	
R138	1-249-435-11	CARBON 33K 5% 1/4W	
R141	1-249-413-11	CARBON 470 5% 1/4W	
R142	1-247-903-00	CARBON 1M 5% 1/4W	
R143	1-249-419-11	CARBON 1.5K 5% 1/4W	
R144	1-249-425-11	CARBON 4.7K 5% 1/4W	
R145	1-249-417-11	CARBON 1K 5% 1/4W	
R170	1-249-417-11	CARBON 1K 5% 1/4W	
R171	1-247-903-00	CARBON 1M 5% 1/4W	
R172	1-249-417-11	CARBON 1K 5% 1/4W	
R173	1-247-903-00	CARBON 1M 5% 1/4W	
R175	1-249-417-11	CARBON 1K 5% 1/4W	
R176	1-249-437-11	CARBON 47K 5% 1/4W	
R177	1-249-438-11	CARBON 56K 5% 1/4W	
R178	1-249-437-11	CARBON 47K 5% 1/4W	
R179	1-249-401-11	CARBON 47 5% 1/4W	
R180	1-247-807-31	CARBON 100 5% 1/4W	
R187	1-249-435-11	CARBON 33K 5% 1/4W	
R188	1-249-435-11	CARBON 33K 5% 1/4W	
R191	1-249-413-11	CARBON 470 5% 1/4W	
R192	1-247-903-00	CARBON 1M 5% 1/4W	
R193	1-249-419-11	CARBON 1.5K 5% 1/4W	
R194	1-249-425-11	CARBON 4.7K 5% 1/4W	
R195	1-249-417-11	CARBON 1K 5% 1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description			Remark
R201	1-249-429-11	CARBON	10K	5%	1/4W
R203	1-249-413-11	CARBON	470	5%	1/4W
R204	1-249-393-11	CARBON	10	5%	1/4W
R206	1-249-393-11	CARBON	10	5%	1/4W
R207	1-249-397-11	CARBON	22	5%	1/4W
R208	1-249-397-11	CARBON	22	5%	1/4W
R209	1-249-413-11	CARBON	470	5%	1/4W
R210	1-247-807-31	CARBON	100	5%	1/4W
R211	1-249-433-11	CARBON	22K	5%	1/4W
R212	1-249-428-11	CARBON	8.2K	5%	1/4W
R213	1-247-889-00	CARBON	270K	5%	1/4W
R214	1-247-850-11	CARBON	6.2K	5%	1/4W
R215	1-249-437-11	CARBON	47K	5%	1/4W
R216	1-249-423-11	CARBON	3.3K	5%	1/4W
R217	1-247-889-00	CARBON	270K	5%	1/4W
R218	1-249-408-11	CARBON	180	5%	1/4W
R219	1-249-430-11	CARBON	12K	5%	1/4W
R220	1-249-417-11	CARBON	1K	5%	1/4W
R221	1-249-429-11	CARBON	10K	5%	1/4W
R222	1-249-431-11	CARBON	15K	5%	1/4W
R223	1-249-434-11	CARBON	27K	5%	1/4W
R224	1-249-433-11	CARBON	22K	5%	1/4W
R225	1-249-427-11	CARBON	6.8K	5%	1/4W
R226	1-249-437-11	CARBON	47K	5%	1/4W
R227	1-249-437-11	CARBON	47K	5%	1/4W
R228	1-249-413-11	CARBON	470	5%	1/4W
R229	1-249-441-11	CARBON	100K	5%	1/4W
R230	1-249-425-11	CARBON	4.7K	5%	1/4W
R231-233					
	1-249-441-11	CARBON	100K	5%	1/4W
R240	1-249-441-11	CARBON	100K	5%	1/4W
R241	1-249-437-11	CARBON	47K	5%	1/4W
R242	1-249-437-11	CARBON	47K	5%	1/4W
R243	1-249-413-11	CARBON	470	5%	1/4W
R244-247					
	1-249-417-11	CARBON	1K	5%	1/4W
R248	1-249-437-11	CARBON	47K	5%	1/4W
R249	1-249-411-11	CARBON	330	5%	1/4W
R250	1-249-429-11	CARBON	10K	5%	1/4W
R251	1-249-425-11	CARBON	4.7K	5%	1/4W
R252	1-249-441-11	CARBON	100K	5%	1/4W
R253	1-249-433-11	CARBON	22K	5%	1/4W
R254	1-249-433-11	CARBON	22K	5%	1/4W
R255	1-247-807-31	CARBON	100	5%	1/4W
R256	1-249-397-11	CARBON	22	5%	1/4W
R257	1-247-811-31	CARBON	150	5%	1/4W
R258	1-249-413-11	CARBON	470	5%	1/4W
R260	1-249-441-11	CARBON	100K	5%	1/4W
R301	1-249-435-11	CARBON	33K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R302	1-249-435-11	CARBON	33K	5%	1/4W
R303	1-249-432-11	CARBON	18K	5%	1/4W
R304	1-249-439-11	CARBON	68K	5%	1/4W
R305	1-249-432-11	CARBON	18K	5%	1/4W
R306	1-249-439-11	CARBON	68K	5%	1/4W
R307-309					
	1-249-419-11	CARBON	1.5K	5%	1/4W
R310	1-249-441-11	CARBON	100K	5%	1/4W
R311	1-249-441-11	CARBON	100K	5%	1/4W
R312	1-249-426-11	CARBON	5.6K	5%	1/4W
R313	1-249-425-11	CARBON	4.7K	5%	1/4W
R314	1-249-425-11	CARBON	4.7K	5%	1/4W
R315	1-249-419-11	CARBON	1.5K	5%	1/4W
R316	1-247-842-11	CARBON	3K	5%	1/4W
R317	1-249-425-11	CARBON	4.7K	5%	1/4W
R318	1-249-414-11	CARBON	560	5%	1/4W
R319	1-247-838-00	CARBON	2K	5%	1/4W
R320	1-249-425-11	CARBON	4.7K	5%	1/4W
R321	1-249-434-11	CARBON	27K	5%	1/4W
R322	1-249-433-11	CARBON	22K	5%	1/4W
R324	1-249-426-11	CARBON	5.6K	5%	1/4W
R325	1-249-433-11	CARBON	22K	5%	1/4W
R326	1-249-429-11	CARBON	10K	5%	1/4W
R327	1-249-417-11	CARBON	1K	5%	1/4W
R328	1-249-441-11	CARBON	100K	5%	1/4W
R329	1-249-431-11	CARBON	15K	5%	1/4W
R330	1-249-435-11	CARBON	33K	5%	1/4W
R332	1-249-431-11	CARBON	15K	5%	1/4W
R334	1-249-426-11	CARBON	5.6K	5%	1/4W
R336	1-249-419-11	CARBON	1.5K	5%	1/4W
R337	1-249-436-11	CARBON	39K	5%	1/4W
R338	1-247-884-11	CARBON	160K	5%	1/4W
R340	1-249-441-11	CARBON	100K	5%	1/4W
R342	1-249-436-11	CARBON	39K	5%	1/4W
R344	1-249-427-11	CARBON	6.8K	5%	1/4W
R345	1-249-412-11	CARBON	390	5%	1/4W
R346	1-249-419-11	CARBON	1.5K	5%	1/4W
R347	1-249-431-11	CARBON	15K	5%	1/4W
R351	1-249-435-11	CARBON	33K	5%	1/4W
R352	1-249-435-11	CARBON	33K	5%	1/4W
R353	1-249-432-11	CARBON	18K	5%	1/4W
R354	1-249-439-11	CARBON	68K	5%	1/4W
R355	1-249-432-11	CARBON	18K	5%	1/4W
R356	1-249-439-11	CARBON	68K	5%	1/4W
R357-359					
	1-249-419-11	CARBON	1.5K	5%	1/4W
R360	1-249-441-11	CARBON	100K	5%	1/4W
R361	1-249-441-11	CARBON	100K	5%	1/4W
R362	1-249-426-11	CARBON	5.6K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R363	1-249-425-11	CARBON	4.7K	5%	1/4W
R364	1-249-425-11	CARBON	4.7K	5%	1/4W
R365	1-249-419-11	CARBON	1.5K	5%	1/4W
R366	1-247-842-11	CARBON	3K	5%	1/4W
R367	1-249-425-11	CARBON	4.7K	5%	1/4W
R368	1-249-414-11	CARBON	560	5%	1/4W
R369	1-247-838-00	CARBON	2K	5%	1/4W
R370	1-249-425-11	CARBON	4.7K	5%	1/4W
R371	1-249-434-11	CARBON	27K	5%	1/4W
R372	1-249-433-11	CARBON	22K	5%	1/4W
R374	1-249-426-11	CARBON	5.6K	5%	1/4W
R375	1-249-433-11	CARBON	22K	5%	1/4W
R376	1-249-429-11	CARBON	10K	5%	1/4W
R377	1-249-417-11	CARBON	1K	5%	1/4W
R378	1-249-441-11	CARBON	100K	5%	1/4W
R379	1-249-431-11	CARBON	15K	5%	1/4W
R380	1-249-435-11	CARBON	33K	5%	1/4W
R382	1-249-431-11	CARBON	15K	5%	1/4W
R384	1-249-426-11	CARBON	5.6K	5%	1/4W
R386	1-249-419-11	CARBON	1.5K	5%	1/4W
R387	1-249-436-11	CARBON	39K	5%	1/4W
R388	1-247-884-11	CARBON	160K	5%	1/4W
R390	1-249-441-11	CARBON	100K	5%	1/4W
R392	1-249-436-11	CARBON	39K	5%	1/4W
R394	1-249-427-11	CARBON	6.8K	5%	1/4W
R395	1-249-412-11	CARBON	390	5%	1/4W
R396	1-249-419-11	CARBON	1.5K	5%	1/4W
R397	1-249-431-11	CARBON	15K	5%	1/4W
R401	1-249-432-11	CARBON	18K	5%	1/4W
R402	1-249-432-11	CARBON	18K	5%	1/4W
R403	1-249-431-11	CARBON	15K	5%	1/4W
R404	1-249-431-11	CARBON	15K	5%	1/4W
R405	1-249-441-11	CARBON	100K	5%	1/4W
R406	1-249-419-11	CARBON	1.5K	5%	1/4W
R407	1-249-430-11	CARBON	12K	5%	1/4W
R408	1-249-441-11	CARBON	100K	5%	1/4W
R409	1-249-419-11	CARBON	1.5K	5%	1/4W
R410	1-249-431-11	CARBON	15K	5%	1/4W
R411	1-247-828-11	CARBON	750	5%	1/4W
R412	1-249-410-11	CARBON	270	5%	1/4W
R413	1-249-425-11	CARBON	4.7K	5%	1/4W
R414	1-249-413-11	CARBON	470	5%	1/4W
R415	1-249-441-11	CARBON	100K	5%	1/4W
R416	1-249-425-11	CARBON	4.7K	5%	1/4W
R441	1-249-435-11	CARBON	33K	5%	1/4W
R442	1-249-435-11	CARBON	33K	5%	1/4W
R443	1-249-419-11	CARBON	1.5K	5%	1/4W
R444	1-249-419-11	CARBON	1.5K	5%	1/4W
R445	1-249-422-11	CARBON	2.7K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R451	1-249-432-11	CARBON	18K	5%	1/4W
R452	1-249-432-11	CARBON	18K	5%	1/4W
R453	1-249-431-11	CARBON	15K	5%	1/4W
R454	1-249-431-11	CARBON	15K	5%	1/4W
R455	1-249-441-11	CARBON	100K	5%	1/4W
R456	1-249-419-11	CARBON	1.5K	5%	1/4W
R457	1-249-430-11	CARBON	12K	5%	1/4W
R458	1-249-441-11	CARBON	100K	5%	1/4W
R459	1-249-419-11	CARBON	1.5K	5%	1/4W
R460	1-249-431-11	CARBON	15K	5%	1/4W
R461	1-249-413-11	CARBON	470	5%	1/4W
R462	1-249-441-11	CARBON	100K	5%	1/4W
R463	1-249-425-11	CARBON	4.7K	5%	1/4W
R464	1-249-413-11	CARBON	470	5%	1/4W
R465	1-249-441-11	CARBON	100K	5%	1/4W
R466	1-249-425-11	CARBON	4.7K	5%	1/4W
R491	1-249-435-11	CARBON	33K	5%	1/4W
R492	1-249-435-11	CARBON	33K	5%	1/4W
R493	1-249-419-11	CARBON	1.5K	5%	1/4W
R494	1-249-419-11	CARBON	1.5K	5%	1/4W
R495	1-249-417-11	CARBON	1K	5%	1/4W
R501-508					
	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-409-11	CARBON	220	5%	1/4W
R510	1-249-409-11	CARBON	220	5%	1/4W
R511	1-249-417-11	CARBON	1K	5%	1/4W
R512	1-249-417-11	CARBON	1K	5%	1/4W
R513	1-249-413-11	CARBON	470	5%	1/4W
R514-519					
	1-249-417-11	CARBON	1K	5%	1/4W
R520	1-249-429-11	CARBON	10K	5%	1/4W
R521	1-249-409-11	CARBON	220	5%	1/4W
R701	1-260-108-81	CARBON	5.6K	5%	1/2W
R706	1-249-425-11	CARBON	4.7K	5%	1/4W
R707	1-249-441-11	CARBON	100K	5%	1/4W
R708	1-249-429-11	CARBON	10K	5%	1/4W
R709	1-249-433-11	CARBON	22K	5%	1/4W
R710	1-249-433-11	CARBON	22K	5%	1/4W
R711	1-249-441-11	CARBON	100K	5%	1/4W

< SWITCH >

⚠S701	1-572-716-11	SWITCH, PUSH (AC POWER) (POWER)

< VIBRATOR >

X201	1-567-970-11	VIBRATOR, CRYSTAL (24MHz)
X501	1-579-175-11	VIBRATOR, CERAMIC (10MHz)

****

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

MICROPHONE AMPLIFIER PANEL

Ref. No.	Part No.	Description			Remark
*	1-652-039-11	MICROPHONE AMPLIFIER BOARD			
		**********			
		< CAPACITOR >			
C901	1-126-161-11	ELECT	2.2uF	20%	50V
C902	1-164-088-11	CERAMIC	0.001uF		50V
C903	1-162-219-31	CERAMIC	68PF	5%	50V
C904	1-162-284-31	CERAMIC	150PF	10%	50V
C905	1-124-463-00	ELECT	0.1uF	20%	50V
C906	1-126-161-11	ELECT	2.2uF	20%	50V
C907	1-162-219-31	CERAMIC	68PF	5%	50V
C908	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C909	1-136-165-00	FILM	0.1uF	5%	50V
C910	1-126-022-11	ELECT	47uF	20%	16V
C911	1-126-022-11	ELECT	47uF	20%	16V
		< CONNECTOR >			
* CN901	1-564-519-11	PLUG, CONNECTOR 4P			
		< IC >			
IC901	8-759-184-02	IC NJM2068L-D (CENTER OUT)			
		< JACK >			
J901	1-507-854-00	JACK, PHONE (MIC)			
		< RESISTOR >			
R901	1-249-441-11	CARBON	100K	5%	1/4W
R902	1-249-423-11	CARBON	3.3K	5%	1/4W
R903	1-249-429-11	CARBON	10K	5%	1/4W
R904	1-249-414-11	CARBON	560	5%	1/4W
R905	1-249-429-11	CARBON	10K	5%	1/4W
R906	1-249-417-11	CARBON	1K	5%	1/4W
R907	1-249-441-11	CARBON	100K	5%	1/4W
R908	1-249-413-11	CARBON	470	5%	1/4W
R909	1-249-429-11	CARBON	10K	5%	1/4W
R910	1-249-416-11	CARBON	820	5%	1/4W
		< VARIABLE RESISTOR >			
RV901	1-223-334-11	RES, VAR, CARBON 50K (MIC LEVEL)			

****

Ref. No.	Part No.	Description			Remark
*	A-6369-728-A	PANEL BOARD, COMPLETE (AEP, G, IT, CIS)			
*	A-4369-763-A	PANEL BOARD, COMPLETE (E, AUS, EA, MY, SP, MX, JE)			
		**********			
*	4-934-853-01	CUSHION			
	4-965-239-01	HOLDER, FL TUBE			
	4-965-240-01	HOLDER (FU), LED			
		< CAPACITOR >			
C601	1-104-905-11	DOUBLE LAYERS	0.22F		5.5V
C602	1-161-494-00	CERAMIC	0.022uF		25V
C603	1-161-494-00	CERAMIC	0.022uF		25V
C604	1-126-177-11	ELECT	100uF	20%	10V
C605	1-164-159-11	CERAMIC	0.1uF		50V
C606	1-164-159-11	CERAMIC	0.1uF		50V
C607	1-162-287-31	CERAMIC	270PF		50V
		< CONNECTOR >			
* CN601	1-568-836-11	SOCKET, CONNECTOR 17P			
* CN602	1-568-826-11	SOCKET, CONNECTOR 7P			
		< DIODE >			
D601	8-719-987-63	DIODE 1N4148M			
D602	8-719-000-84	DIODE UZL-7M1			
D603	8-719-987-63	DIODE 1N4148M			
D604	8-719-987-63	DIODE 1N4148M			
D605	8-719-987-63	DIODE 1N4148M			
D606	8-719-987-63	DIODE 1N4148M			
D607	8-719-987-63	DIODE 1N4148M			
D608	8-719-987-63	DIODE 1N4148M			
D609	8-719-987-63	DIODE 1N4148M			
D610	8-719-987-63	DIODE 1N4148M			
D612	8-719-303-02	LED SEL2510C-D (V-VIDEO 1/MD)			
D613	8-719-303-02	LED SEL2510C-D (V-VIDEO 2/DAT)			
D614	8-719-303-02	LED SEL2510C-D (V-VIDEO 3)			
D615	8-719-301-38	LED SEL2210S-C (A-VIDEO 1/MD)			
D616	8-719-301-38	LED SEL2210S-C (A-VIDEO 2/DAT)			
D617	8-719-301-38	LED SEL2210S-C (A-VIDEO 3)			
D618	8-719-301-38	LED SEL2210S-C (CD)			
D619	8-719-301-38	LED SEL2210S-C (TUNER)			
D620	8-719-301-38	LED SEL2210S-C (TAPE)			
D621	8-719-301-38	LED SEL2210S-C (PHONO)			
D622	8-719-301-37	LED SEL2210S-CD (ENTER)			
D623	8-719-313-69	LED SEL3210S-CD (P.FUNCTION)			
D624	8-719-313-69	LED SEL3210S-CD (SOUND DIRECT)			
		< FLUORESCENT INDICATOR >			
FL601	1-517-302-11	INDICATOR TUBE, FLUORESCENT			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC601	8-759-262-33	IC uPD78014CW-065			
IC602	8-759-075-35	IC TD62C950RF			
IC603	8-759-075-35	IC TD62C950RF			
		< TRANSISTOR >			
Q601	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q602	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q603	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q604	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q605	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q606	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q607	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q608	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q609	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q610	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q611	8-729-900-36	TRANSISTOR DTC124ES			
		< RESISTOR >			
R601	1-247-864-11	CARBON	24K	5%	1/4W
R603	1-249-429-11	CARBON	10K	5%	1/4W
R604	1-249-429-11	CARBON	10K	5%	1/4W
R605	1-249-417-11	CARBON	1K	5%	1/4W
R606	1-249-425-11	CARBON	4.7K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-249-393-11	CARBON	10	5%	1/4W
R609	1-249-421-11	CARBON	2.2K	5%	1/4W
R610	1-249-421-11	CARBON	2.2K	5%	1/4W
R612-614					
	1-249-417-11	CARBON	1K	5%	1/4W
R615	1-249-427-11	CARBON	6.8K	5%	1/4W
R617	1-249-429-11	CARBON	10K	5%	1/4W
R619	1-249-429-11	CARBON	10K	5%	1/4W
R621	1-249-427-11	CARBON	6.8K	5%	1/4W
R623	1-249-429-11	CARBON	10K	5%	1/4W
R627-633					
	1-249-433-11	CARBON	22K	5%	1/4W
R634	1-249-404-00	CARBON	82	5%	1/4W
R635	1-249-408-11	CARBON	180	5%	1/4W
R636-640					
	1-247-807-31	CARBON	100	5%	1/4W
R642	1-249-433-11	CARBON	22K	5%	1/4W
R643	1-249-429-11	CARBON	10K	5%	1/4W
R644	1-249-417-11	CARBON	1K	5%	1/4W
R645	1-249-433-11	CARBON	22K	5%	1/4W
R646-648					
	1-249-422-11	CARBON	2.7K	5%	1/4W
R649-651					
	1-249-429-11	CARBON	10K	5%	1/4W
R652	1-249-409-11	CARBON (AEP, G, IT, CIS)	220	5%	1/4W
R654	1-249-409-11	CARBON (AEP, G, IT, CIS)	220	5%	1/4W
R655	1-249-425-11	CARBON	4.7K	5%	1/4W
		< SWITCH >			
S601	1-554-303-21	SWITCH, TACTILE (DBS LEVEL)			
S602	1-554-303-21	SWITCH, TACTILE (ENTER)			
S603	1-554-303-21	SWITCH, TACTILE (CANCEL)			
S604	1-554-303-21	SWITCH, TACTILE (DBS FREQUENCY)			
S605	1-554-303-21	SWITCH, TACTILE (MODE)			
S606	1-554-303-21	SWITCH, TACTILE (DISPLAY)			
S607	1-554-303-21	SWITCH, TACTILE (MEMORY)			
S608	1-554-303-21	SWITCH, TACTILE (▽)			
S609	1-554-303-21	SWITCH, TACTILE (◁)			
S610	1-554-303-21	SWITCH, TACTILE (△)			
S611	1-554-303-21	SWITCH, TACTILE (▷)			
S612	1-554-303-21	SWITCH, TACTILE (8)			
S613	1-554-303-21	SWITCH, TACTILE (9)			
S614	1-554-303-21	SWITCH, TACTILE (10)			
S615	1-554-303-21	SWITCH, TACTILE (7)			
S616	1-554-303-21	SWITCH, TACTILE (6)			
S617	1-554-303-21	SWITCH, TACTILE (5)			
S618	1-554-303-21	SWITCH, TACTILE (4)			
S619	1-554-303-21	SWITCH, TACTILE (3)			
S620	1-554-303-21	SWITCH, TACTILE (2)			
S621	1-554-303-21	SWITCH, TACTILE (1)			
S622	1-554-303-21	SWITCH, TACTILE (VIDEO 1/MD)			
S623	1-554-303-21	SWITCH, TACTILE (VIDEO 2/DAT)			
S624	1-554-303-21	SWITCH, TACTILE (VIDEO 3)			
S625	1-554-303-21	SWITCH, TACTILE (TAPE)			
S626	1-554-303-21	SWITCH, TACTILE (CD)			
S627	1-554-303-21	SWITCH, TACTILE (TUNER)			
S628	1-554-303-21	SWITCH, TACTILE (PHONO)			
S629	1-554-303-21	SWITCH, TACTILE (P. FUNCTION)			
S630	1-554-303-21	SWITCH, TACTILE (KARAOKE PON) (EXCEPT AEP, G, IT, CIS)			
S631	1-554-303-21	SWITCH, TACTILE (SOUND DIRECT)			
S632	1-554-303-21	SWITCH, TACTILE (DSP MENU)			
		< VIBRATOR >			
X601	1-579-175-11	VIBRATOR, CERAMIC (10MHz)			

****

VIDEO FUNCTION | VIDEO 3 | VOL

Ref. No.	Part No.	Description			Remark
*	1-652-042-11	VIDEO FUNCTION BOARD			
		**********			
		< CAPACITOR >			
C801	1-126-301-11	ELECT	1uF	20%	50V
C802	1-126-301-11	ELECT	1uF	20%	50V
C804-806					
	1-124-471-00	ELECT	1000uF	20%	6.3V
C807	1-161-494-00	CERAMIC	0.022uF		25V
C808	1-126-049-11	ELECT	22uF	20%	25V
		< CONNECTOR >			
* CNJ801	1-569-500-11	PIN, CONNECTOR 5P			
		< IC >			
IC801	8-759-061-95	IC SN761200N			
		< JACK >			
J801	1-568-751-51	JACK, PIN (2P SHIELD TYPE) (VIDEO 1/MD)			
J802	1-568-752-51	JACK, PIN (3P SHIELD TYPE) (VIDEO 2/DAT, MONITOR)			
		< COIL >			
L801	1-410-521-11	INDUCTOR	100uH		
		< TRANSISTOR >			
Q801	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q802	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q803	8-729-119-76	TRANSISTOR	2SA1175-HFE		
		< RESISTOR >			
R801	1-247-804-11	CARBON	75	5%	1/4W
R802	1-247-804-11	CARBON	75	5%	1/4W
R804	1-249-403-11	CARBON	68	5%	1/4W
R805	1-249-429-11	CARBON	10K	5%	1/4W
R806	1-249-403-11	CARBON	68	5%	1/4W
R807	1-249-429-11	CARBON	10K	5%	1/4W
R808	1-249-403-11	CARBON	68	5%	1/4W
R809	1-249-429-11	CARBON	10K	5%	1/4W
R810-815					
	1-249-408-11	CARBON	180	5%	1/4W
R817	1-249-417-11	CARBON	1K	5%	1/4W
R819	1-249-417-11	CARBON	1K	5%	1/4W

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Ref. No.	Part No.	Description			Remark
*	1-652-043-11	VIDEO 3 BOARD			
		**********			
		< CAPACITOR >			
C135	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C185	1-162-286-31	CERAMIC (AEP, G, IT, CIS)	220PF	10%	50V
C931	1-126-301-11	ELECT	1uF	20%	50V
		< JACK >			
J105	1-580-174-41	JACK, PIN (3P FRONT) (VIDEO 3 INPUT)			
		< RESISTOR >			
R135	1-249-417-11	CARBON	1K	5%	1/4W
R136	1-247-903-00	CARBON	1M	5%	1/4W
R185	1-249-417-11	CARBON	1K	5%	1/4W
R186	1-247-903-00	CARBON	1M	5%	1/4W
R931	1-247-804-11	CARBON	75	5%	1/4W

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*	A-4369-739-A	VOL BOARD, COMPLETE (AEP, CIS)			
*	A-4369-756-A	VOL BOARD, COMPLETE (G, IT)			
*	A-4369-759-A	VOL BOARD, COMPLETE (E, AUS, EA, MY, SP, MX, JE)			
		**********			
		< CAPACITOR >			
C251	1-161-494-00	CERAMIC	0.022uF		25V
C252	1-126-022-11	ELECT	47uF	20%	10V
C421	1-126-161-11	ELECT	2.2uF	20%	50V
C422	1-126-049-11	ELECT	22uF	20%	25V
C423	1-126-025-11	ELECT	330uF	20%	16V
C425	1-164-159-11	CERAMIC (AEP, CIS)	0.1uF		50V
C431	1-126-161-11	ELECT	2.2uF	20%	50V
C432	1-126-049-11	ELECT	22uF	20%	25V
C433	1-162-286-31	CERAMIC (G, IT)	220PF	10%	50V
C471	1-126-161-11	ELECT	2.2uF	20%	50V
C472	1-126-049-11	ELECT	22uF	20%	25V
C473	1-126-022-11	ELECT	47uF	20%	16V
C474	1-162-199-31	CERAMIC	10PF	5%	50V
C475	1-164-159-11	CERAMIC (AEP, CIS)	0.1uF		50V
C481	1-126-161-11	ELECT	2.2uF	20%	50V
C482	1-126-049-11	ELECT	22uF	20%	25V
C483	1-162-286-31	CERAMIC (G, IT)	220PF	10%	50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN251	1-564-506-11	PLUG, CONNECTOR 3P			
* CN252	1-564-506-11	PLUG, CONNECTOR 3P			
* CN253	1-568-826-11	SOCKET, CONNECTOR 7P			
CN254	1-564-510-11	PLUG, CONNECTOR 7P			
CN255	1-564-506-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D251	8-719-010-34	DIODE UZ-4.7BSC			
		< IC >			
IC251	8-759-820-62	IC LB1639			
IC421	8-759-710-59	IC NJM4580D-D			
IC422	8-759-710-59	IC NJM4580D-D			
		< TRANSISTOR >			
Q251	8-729-900-36	TRANSISTOR DTC124ES			
		< RESISTOR >			
R251	1-249-412-11	CARBON	390	5%	1/4W
R252	1-249-393-11	CARBON	10	5%	1/4W
R253	1-249-413-11	CARBON	470	5%	1/4W
R254	1-249-413-11	CARBON	470	5%	1/4W
R421	1-249-441-11	CARBON	100K	5%	1/4W
R422	1-249-434-11	CARBON	27K	5%	1/4W
R423	1-249-426-11	CARBON	5.6K	5%	1/4W
R424	1-249-441-11	CARBON	100K	5%	1/4W
R425	1-249-403-11	CARBON	68	5%	1/4W
R426	1-249-421-11	CARBON	2.2K	5%	1/4W
R431	1-249-437-11	CARBON	47K	5%	1/4W
R432	1-249-441-11	CARBON	100K	5%	1/4W
R433	1-249-417-11	CARBON	1K	5%	1/4W
R434	1-249-417-11	CARBON	1K	5%	1/4W
R471	1-249-441-11	CARBON	100K	5%	1/4W
R472	1-247-862-11	CARBON	20K	5%	1/4W
R473	1-249-429-11	CARBON	10K	5%	1/4W
R474	1-249-441-11	CARBON	100K	5%	1/4W
R475	1-249-403-11	CARBON	68	5%	1/4W
R476	1-249-421-11	CARBON	2.2K	5%	1/4W
R481	1-249-437-11	CARBON	47K	5%	1/4W
R482	1-249-441-11	CARBON	100K	5%	1/4W
R483	1-249-417-11	CARBON	1K	5%	1/4W
R484	1-249-417-11	CARBON	1K	5%	1/4W
		< VARIABLE RESISTOR >			
RV202	1-223-692-11	RES, VAR, CARBON 10K/100KX4 (VOLUME)			

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Ref. No.	Part No.	Description	Remark
*	1-653-080-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
		**********	
		< CONNECTOR >	
* CN3	1-564-687-11	PIN, CONNECTOR 3P (E, EA, MY, SP, JE)	
		< SWITCH >	
⚠VS1	1-572-367-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E, EA, MY, SP, JE)	

****

MISCELLANEOUS

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4	1-690-635-11	WIRE, FLAT TYPE (7 CORE)	
15	1-751-486-11	WIRE (FLAT TYPE) (17 CORE)	
⚠62	1-575-656-11	CORD, POWER (E, MX, JE)	
⚠63	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
⚠64	1-751-355-11	CORD, POWER (AUS)	
⚠T701	1-426-724-11	TRANSFORMER, POWER (E, EA, MY, SP, MX, JE)	
⚠T701	1-426-725-11	TRANSFORMER, POWER (AEP, G, IT, AUS, CIS)	

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****

HARDWARE LIST

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#1	7-621-849-00	SCREW (BV/RING)
#2	7-682-547-09	SCREW +BVTT 3X6 (S)
#3	7-682-548-04	SCREW +BVTT 3X8 (S)
#4	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S

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ACCESSORIES & PACKING MATERIALS

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*	4-965-421-02	CUSHION

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

9-959-443-11

Sony Corporation
Consumer A & V Products Company
Home A & V Products Div.

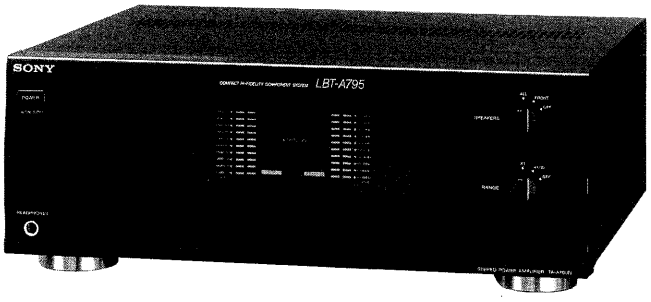
English
94D0470-1
Printed in Japan

Published by Home A & V Products Div.
Quality Engineering Dept.

TA-A790N

SERVICE MANUAL

AEP Model
E Model
Australian Model
Tourist Model



This set is the Power Amplifier section in LBT-A790/A795.

SPECIFICATIONS

Peak music power output (6 ohms, 4 speakers driven)	
	900W (MX)
	1,200W (E, EA, SP, MY, JE, AUS)
Continuous RMS power output	
FRONT (AEP, IT, G, CIS)	100 W + 100 W (6 ohms, DIN, 1 kHz)
	120 W + 120 W (6 ohms, at 1 kHz, 5% THD)
FRONT (E, EA, SP, MY, MX, JE, AUS)	125W+125W (6 ohms, at 1kHz, 5% THD)
REAR	20 W + 20 W (4 ohms, DIN, 1 kHz)
	25 W + 25 W (4 ohms, at 1 kHz, 5% THD)
Music power output (AEP, IT, G, CIS)	
FRONT	180 W + 180 W (6 ohms, at 1 kHz, 10% THD)
REAR	33 W + 33 W (4 ohms, at 1 kHz, 10% THD)
Frequency response	
FRONT	15 Hz to 50 kHz $^{+0}_{-3}$ dB
REAR	15 Hz to 50 kHz $^{+0}_{-3}$ dB
Power requirements	220—230V AC, 50/60Hz (AEP, IT, CIS, G)
	240V AC, 50/60Hz (AUS)
	120V/220V/230—240V AC, 50/60Hz (EA, E, JE, MY, SP)
	120V AC, 60Hz (MX)
Power consumption	240W (AEP, IT, CIS, G)
	285W (AUS, EA, E, JE, MY, SP)
	270W (MX)

Mass	Approx. 7.5 kg (16 lbs 8 oz) (AEP, IT, G, CIS, MX)
	Approx. 7.6 kg (16 lbs 12 oz) (E, EA, SP, MY, AUS, JE)
Dimensions	Approx. 355 x 135 x 325 mm ($14 \times 5\,^{5}/_{16} \times 12\,^{13}/_{16}$ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

- Abbreviations
  - IT : Italian model
  - G : German model
  - AUS : Australian model
  - EA : Saudi Arabia model
  - JE : Tourist model
  - MY : Malaysia model
  - SP : Singapore model
  - MX : Mexican model

SAFETY-RELATED COMPONENT WARNING!!

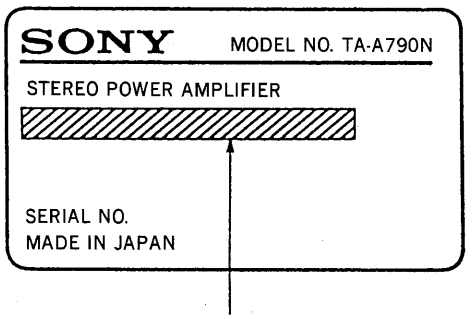
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

STEREO POWER AMPLIFIER

SONY®

MODEL IDENTIFICATION

—Specification Label—



AEP, IT, CIS model	: AC: 220V—230V~50/60Hz 240W
G model	: SYSTEM LBT-A790 AC: 220V—230V~50/60Hz 240W
AUS model	: AC: 240V~50/60Hz 285W
EA, E, JE, MY, SP model	: AC: 120V/220V/230V—240V~50/60Hz 285W
MX model	: AC: 120V~60Hz 270W

• Abbreviations
IT : Italian model
G : German model
AUS: Australian model
EA : Saudi Arabia model
JE : Tourist model
MY : Malaysia model
SP : Singapore model
MX : Mexican model

NOTE FOR SERVICE

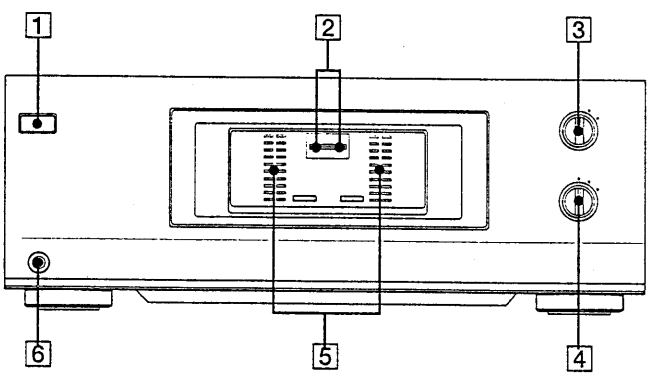
To input from the pin jack by using SEN/LBT service jig, connect the SYSTEM CONTROL 3 (white) of TA-A790N and the SYSTEM CONTROL 1 (blue) of the service jig with a 10pin or 11pin system cord. This allows pin input.

TABLE OF CONTENTS

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. PARTS IDENTIFICATION

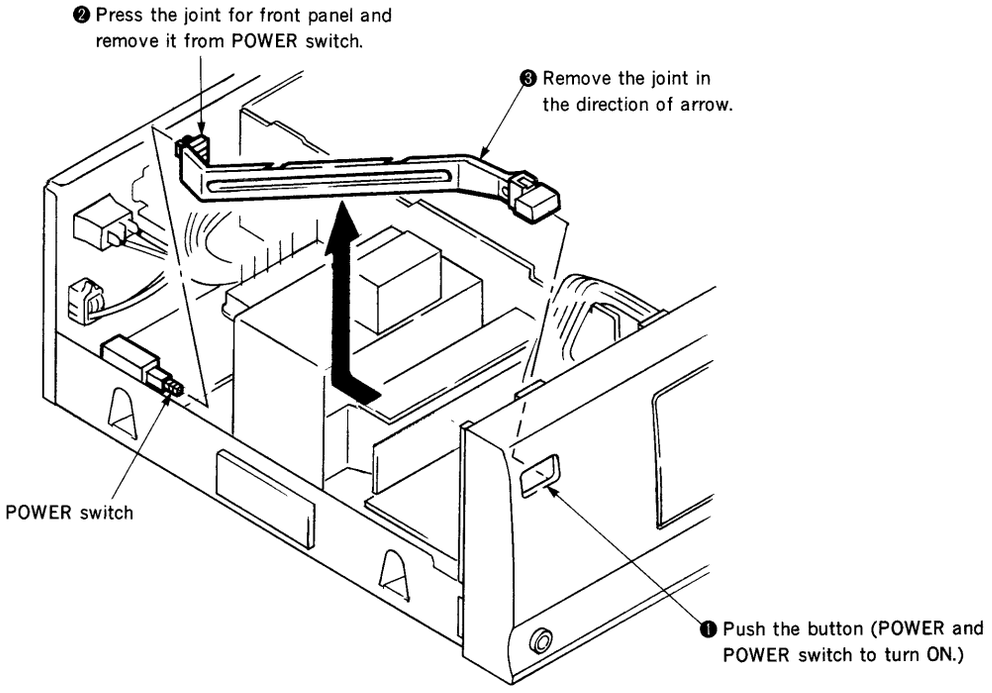


1 POWER switch (20)
2 OPERATION indicators (20)
3 SPEAKERS switch (22)
4 RANGE switch (22)
5 Peak level meters (22)
6 HEADPHONES jack (22)

SECTION 2
SERVICE NOTE

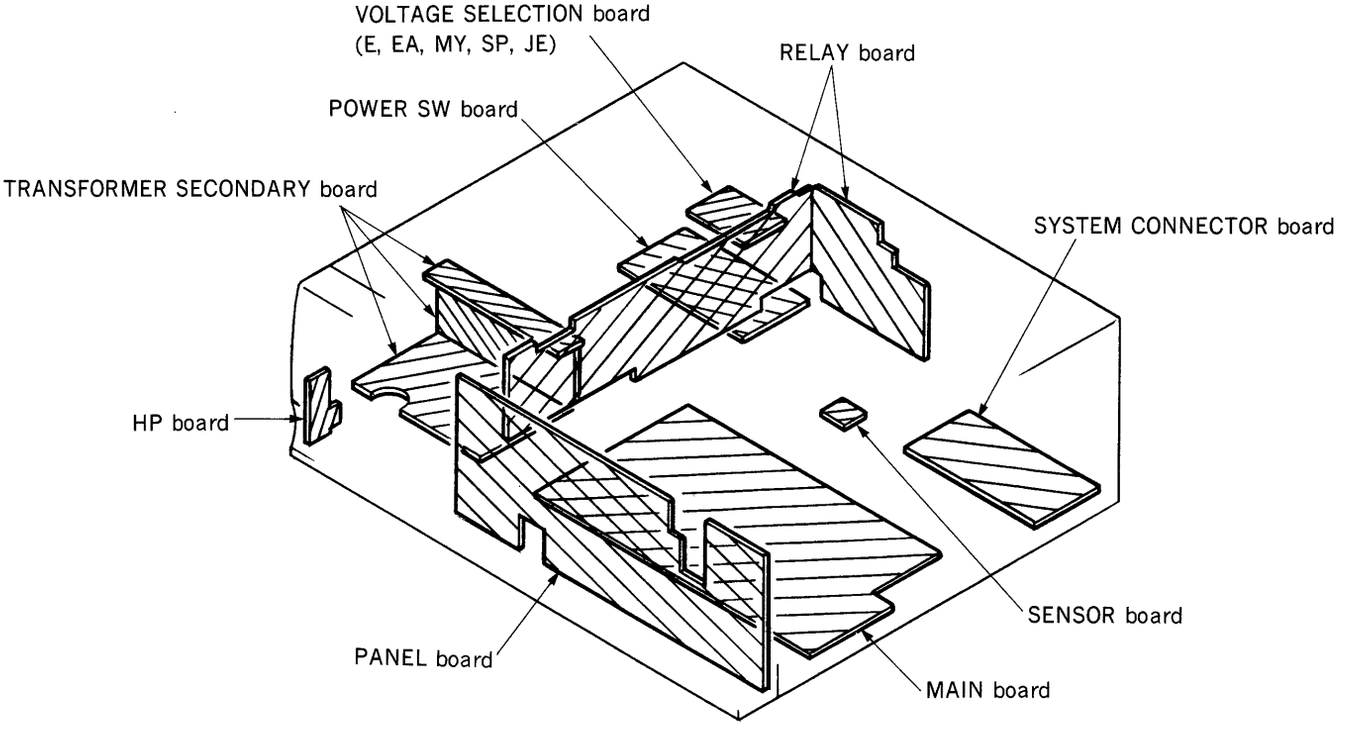
Note : Follow the disassembly procedure in the numerical order given.

2-1. REMOVAL OF JOINT



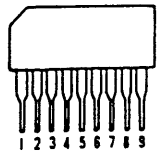
SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

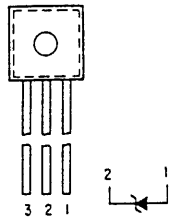


3-2. SEMICONDUCTOR LEAD LAYOUTS

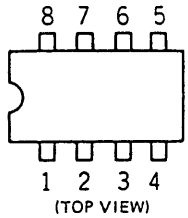
IR2E31A



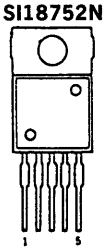
LM35DZ



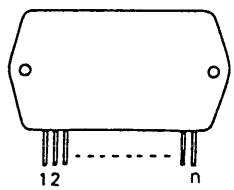
NJM2903D



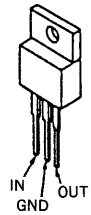
SI18752N



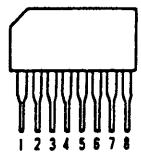
STK-4231MK2



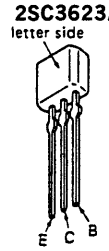
TA7812S



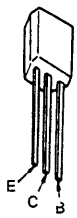
μPC1237HA



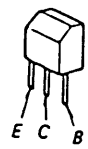
DTA124ES
2SC3623A-LK



DTC124ES
DTC144ES
2SC2603-EF



2SB733-34



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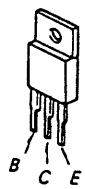
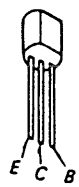
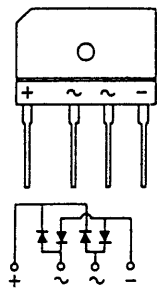


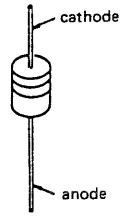
2SC1841-PAFAEA



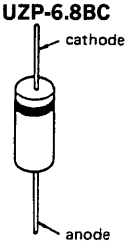
D4SB60L
RBV-602-01



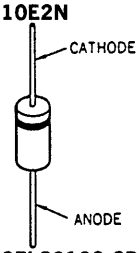
HZS30-2L



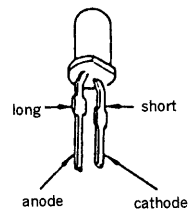
UZP-6.8BC



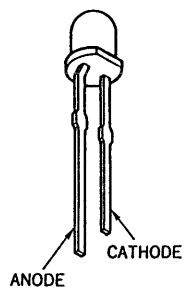
1N4148M
1S1585
10E2N



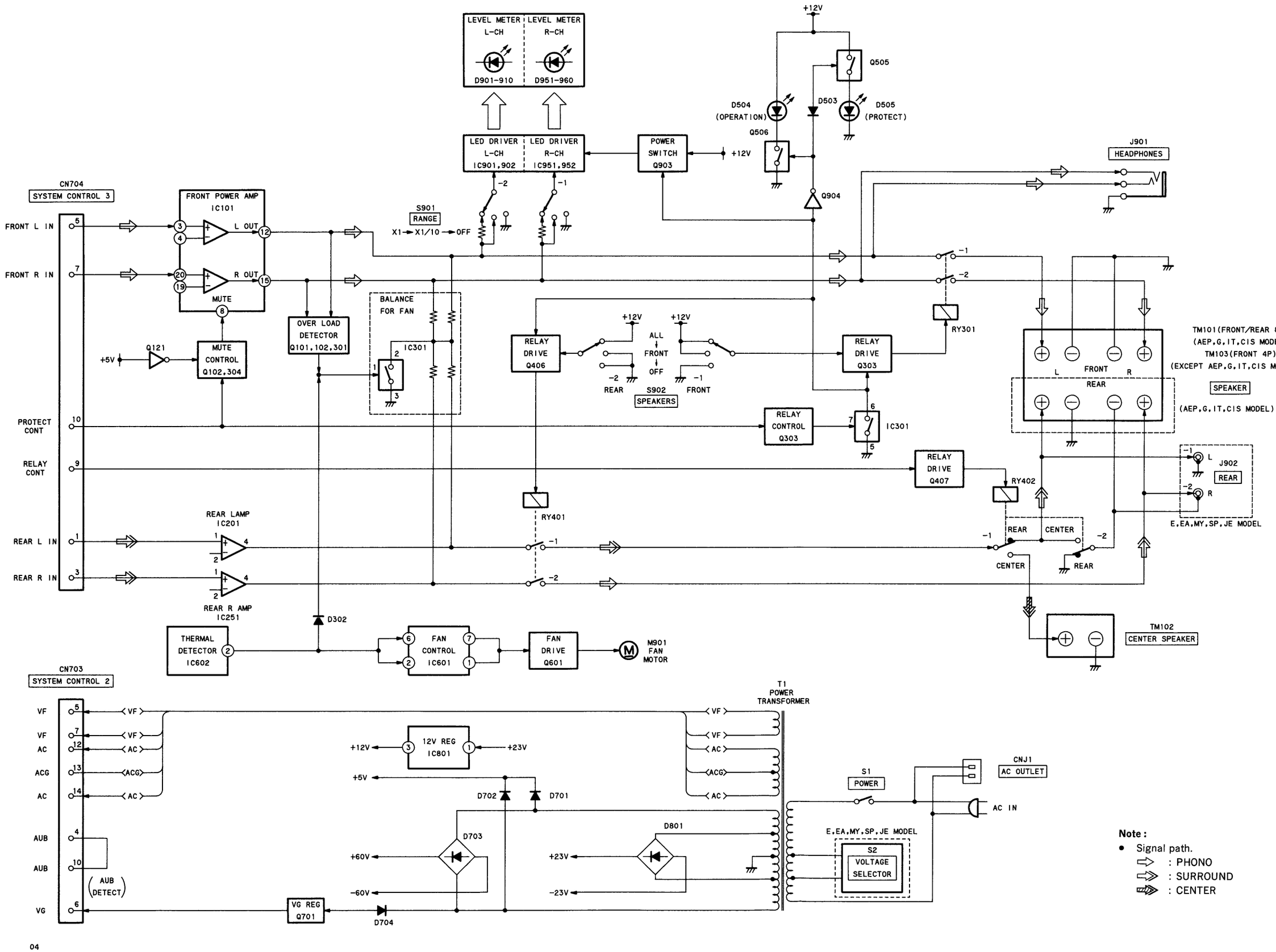
SEL3210S-CD
SEL4227C-D-TP1



SEL3410E-TH12



3-3. BLOCK DIAGRAM

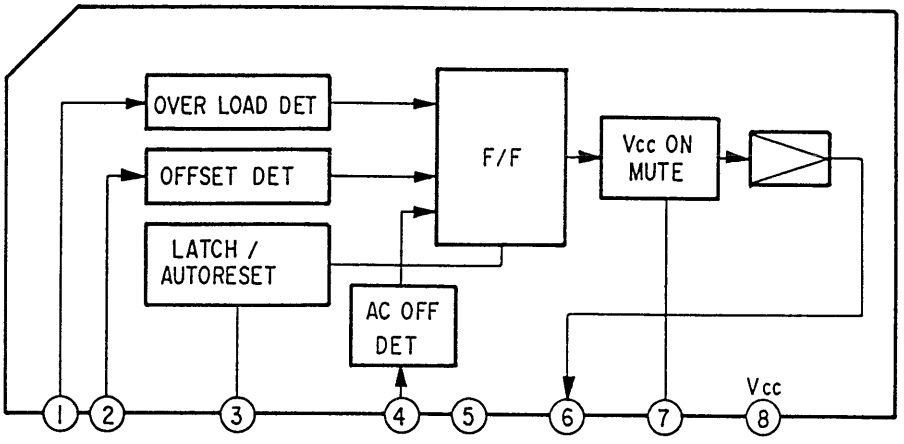


Note :

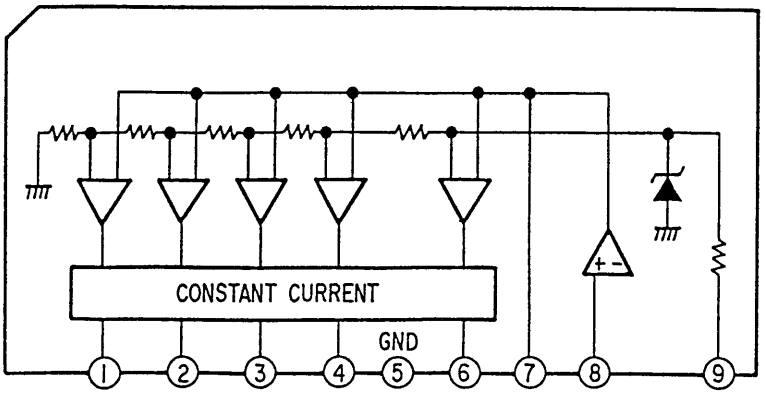
- Signal path.
  - ⇨ : PHONO
  - ⇨ : SURROUND
  - ⇛ : CENTER

• **IC Block Diagrams**

IC301 μPC1237HA



IC901, 902, 951, 952 IR2E31A



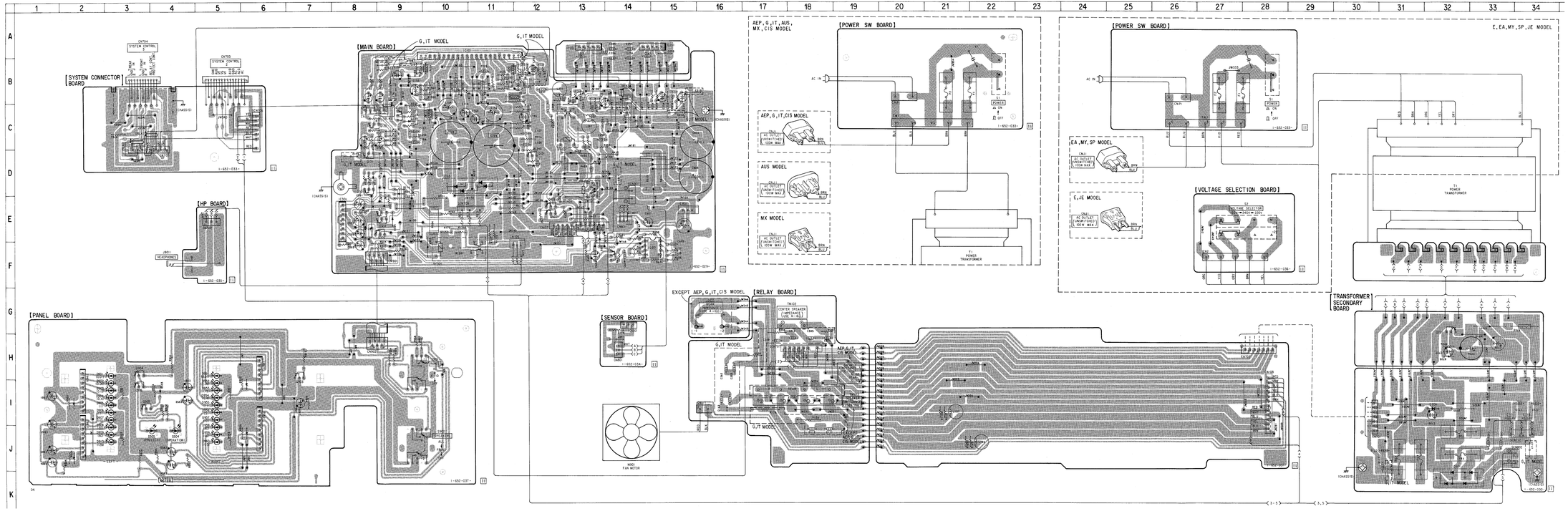
3-4. PRINTED WIRING BOARDS • Refer to page 4 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	D-12	D956	I-5
D102	C-9	D957	I-5
D301	D-8	D958	J-5
D302	E-9	D959	J-5
D303	F-10	D960	J-5
D304	E-9		
D403	D-13	IC101	A-10
D405	E-12	IC201	A-13
D503	I-4	IC251	A-15
D504	J-4	IC301	E-8
D505	J-4	IC601	F-14
D601	F-13	IC602	G-14
D701	E-9	IC801	E-15
D702	E-9	IC901	I-2
D703	D-10	IC902	J-2
D704	G-33	IC951	H-6
D705	H-32	IC952	I-6
D706	I-32		
D801	K-32	Q101	D-12
D901	H-3	Q102	C-9
D902	I-3	Q120	C-8
D903	I-3	Q121	D-8
D904	I-3	Q301	D-8
D905	I-3	Q302	E-9
D906	I-3	Q303	E-9
D907	I-3	Q304	E-9
D908	J-3	Q406	E-12
D909	J-3	Q407	E-12
D910	J-3	Q505	I-3
D951	H-5	Q506	I-3
D952	I-5	Q601	F-14
D953	I-5	Q701	G-32
D954	I-5	Q903	H-7
D955	I-5	Q904	H-3

Note :

- ○— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- Abbreviations
  - IT : Italian model
  - G : German model
  - AUS : Australian model
  - EA : Saudi Arabia model
  - JE : Tourist model
  - MY : Malaysia model
  - SP : Singapore model
  - MX : Mexican model



3-5. SCHEMATIC DIAGRAM • Refer to page 7 for IC Block Diagrams.

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ⊣W⊢ : nonflammable resistor.
- ⊣W⊢ : fusible resistor.
- B+ : B+ Line
- B− : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : PHONO
  ⇨ : SURROUND
  ⇨ : CENTER
- Abbreviations
  IT : Italian model
  G : German model
  AUS : Australian model
  EA : Saudi Arabia model
  JE : Tourist model
  MY : Malaysia model
  SP : Singapore model
  MX : Mexican model

【PANEL BOARD】

【MAIN BOARD】

【HP BOARD】

【RELAY BOARD】

【SYSTEM CONNECTOR BOARD】

【SENSOR BOARD】

【TRANSFORMER SECONDARY BOARD】

【POWER SW BOARD】

【POWER SW BOARD】
【VOLTAGE SELECTION BOARD】

【POWER SW BOARD】

* NOT REPLACEABLE : BUILT IN TRANSFORMER

SECTION 4
EXPLODED VIEWS

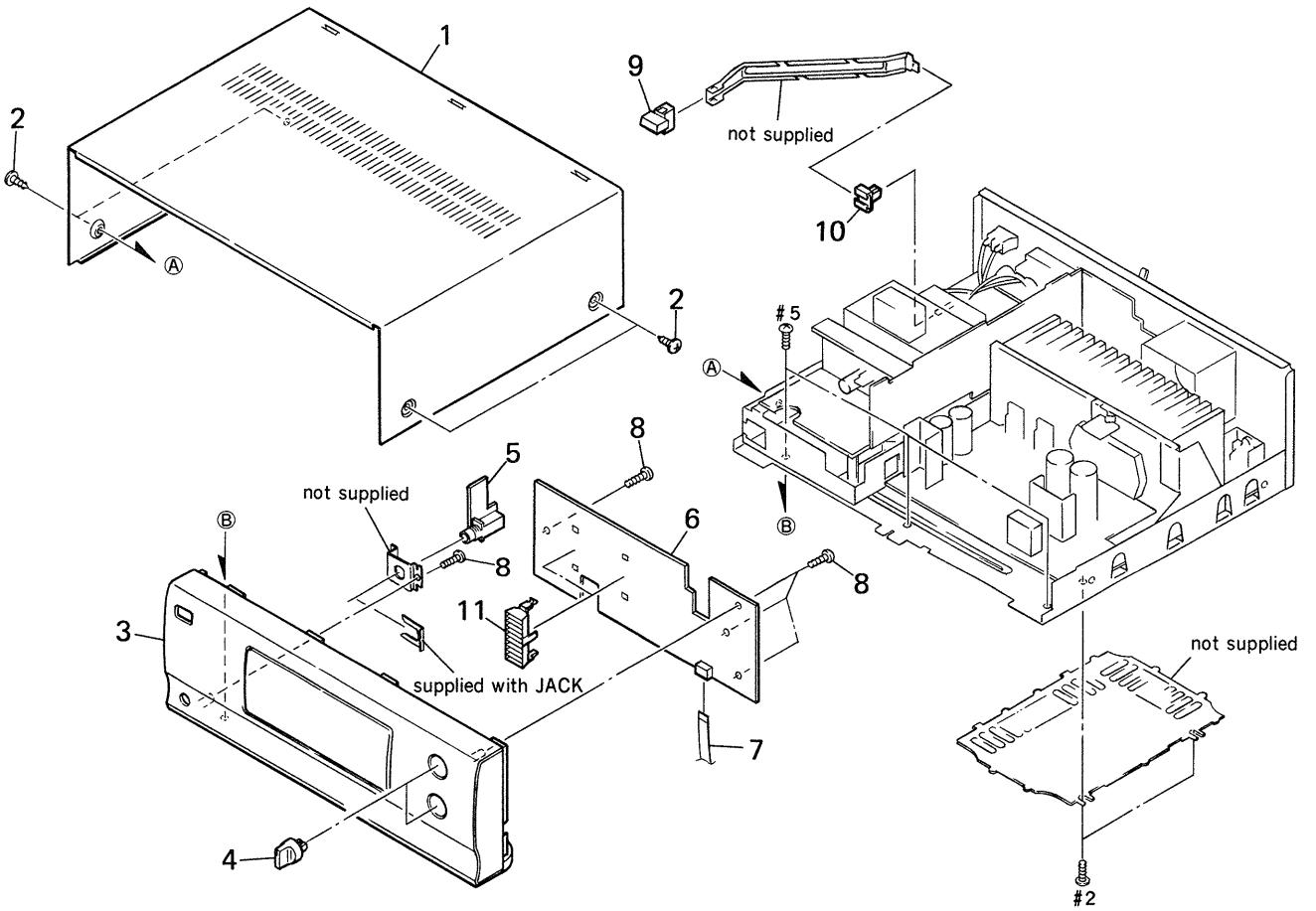
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

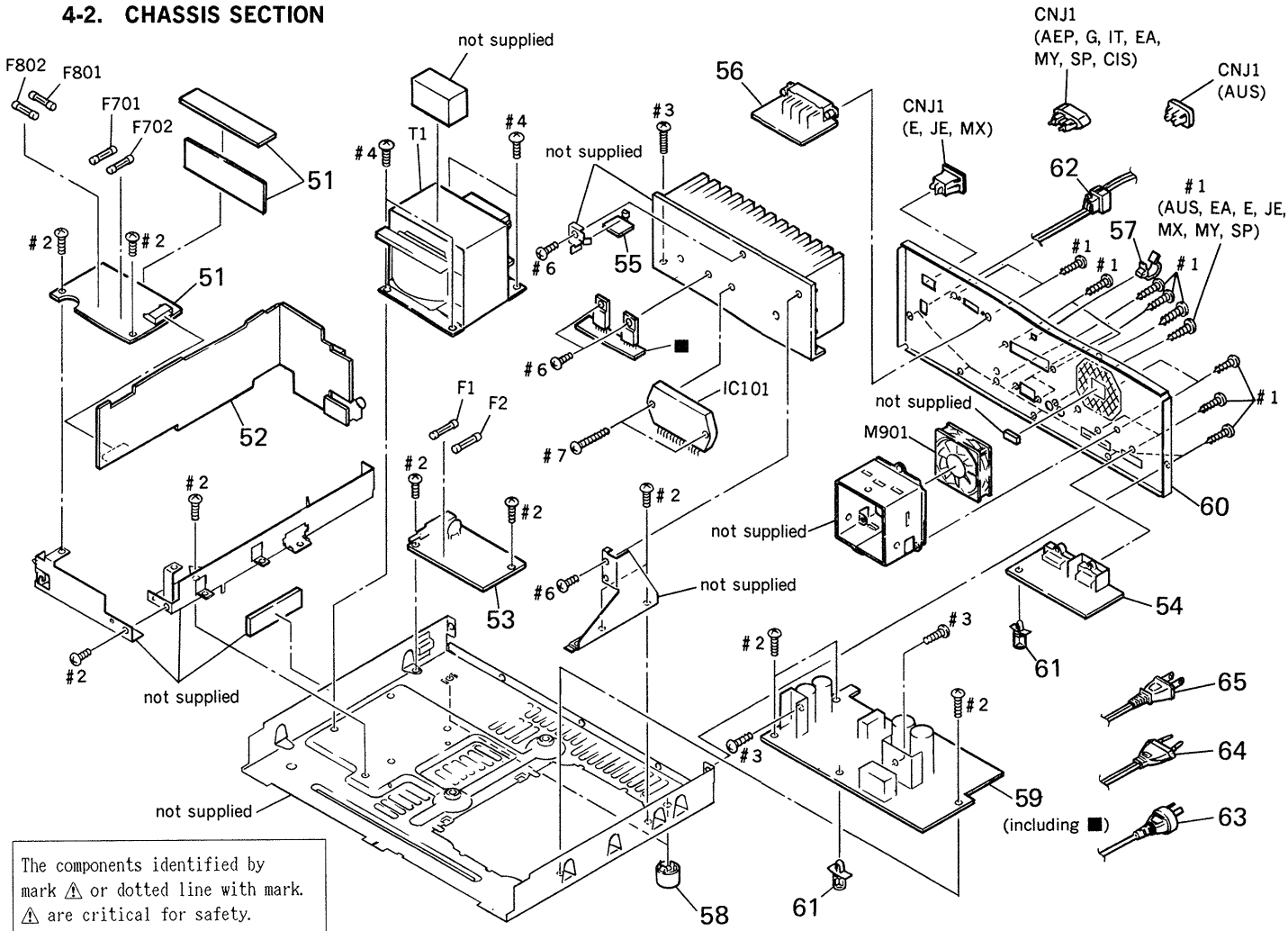
- Abbreviations
  G : German model
  IT : Italian model
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  JE : Tourist model
  AUS : Australian model
  MX : Mexican model

4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-949-912-91	CASE	
2	3-363-099-01	SCREW (CASE 3 TP2)	
3	X-4944-737-1	PANEL ASSY, FRONT (AEP, E3, G, IT, EA, MY, SP, CIS, JE)	
3	X-4944-738-1	PANEL ASSY, FRONT (E2, AUS, MX, /2:E3)	
4	X-4945-052-1	KNOB ASSY	
* 5	1-652-035-11	HP BOARD	
* 6	A-4369-753-A	PANEL BOARD, COMPLETE	
7	1-590-239-31	WIRE, FLAT TYPE (7 CORE)	
8	4-951-620-01	SCREW (2.6X8), +BVTP	
9	4-964-965-01	BUTTON (POWER)	
10	4-866-342-00	JOINT (B), KNOB	
11	4-965-291-01	HOLDER, LED	

4-2. CHASSIS SECTION



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	1-652-030-11	TRANSFORMER SECONDARY BOARD	
* 52	1-652-031-11	RELAY BOARD	
* 53	1-652-032-11	POWER SW BOARD	
* 54	1-652-033-11	SYSTEM CONNECTOR BOARD	
* 55	1-652-034-11	SENSOR BOARD	
* 56	1-652-036-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
* 57	4-949-235-01	HOOK	
58	4-931-169-01	FOOT	
* 59	A-4369-729-A	MAIN BOARD, COMPLETE (AEP, MX, CIS)	
* 59	A-4369-730-A	MAIN BOARD, COMPLETE (G, IT)	
* 59	A-4369-732-A	MAIN BOARD, COMPLETE (E, AUS, EA, MY, SP, JE)	
* 60	4-965-289-01	PANEL, BACK (AEP1, IT, CIS)	
* 60	4-965-289-11	PANEL, BACK (AEP2)	
* 60	4-965-289-21	PANEL, BACK (G)	
* 60	4-965-289-41	PANEL, BACK (AUS)	
* 60	4-965-289-52	PANEL, BACK (EA)	
* 60	4-965-289-62	PANEL, BACK (E, JE)	
* 60	4-965-289-71	PANEL, BACK (MY, SP)	
* 60	4-965-289-81	PANEL, BACK (MX)	
* 61	3-350-847-21	HOLDER, PCB	

Ref. No.	Part No.	Description	Remark
* 62	3-703-244-00	BUSHING (2104), CORD (AEP, G, IT, AUS, EA, MY, SP, CIS)	
* 62	3-703-571-11	BUSHING (S) (4516), CORD (E, MX, JE)	
⚠63	1-751-355-11	CORD, POWER (AUS)	
⚠64	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
⚠65	1-575-656-11	CORD, POWER (E, MX, JE)	
⚠CNJ1	1-251-078-11	OUTLET, AC (AC OUTLET) (AUS)	
⚠CNJ1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA, MY, SP, CIS)	
⚠CNJ1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, MX, JE)	
⚠F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
⚠F1	1-532-350-00	FUSE (T4.0AL) (MX)	
⚠F2	1-576-228-31	FUSE (H.B.C.) (T2.0AH)	
⚠F701	1-532-203-00	FUSE (T2.0AL)	
⚠F702	1-532-203-00	FUSE (T2.0AL)	
⚠F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
⚠F802	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
IC101	8-749-921-68	IC STK-4231MK2	
M901	1-698-380-11	MOTOR, FAN (DC)	
⚠T1	1-426-722-11	TRANSFORMER, POWER (AEP, G, IT, CIS)	
⚠T1	1-426-723-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
⚠T1	1-426-857-11	TRANSFORMER, POWER (MX)	

SECTION 5
ELECTRICAL PARTS LIST

HP | MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

- Abbreviations
  MX : Mexican model
  G : German model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  JE : Tourist model

Ref. No.	Part No.	Description			Remark
*	1-652-035-11	HP BOARD			
		********			
		< JACK >			
J901	1-507-796-71	JACK (HEADPHONES)			
**********					
*	A-4369-729-A	MAIN BOARD, COMPLETE (AEP, MX, CIS)			
*	A-4369-730-A	MAIN BOARD, COMPLETE (G, IT)			
*	A-4369-732-A	MAIN BOARD, COMPELTE (E, AUS, EA, MY, SP, JE)			
		**********			
*	4-880-403-11	HEAT SINK			
*	4-942-204-01	PLATE, GROUND			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C101	1-162-290-31	CERAMIC	470PF	10%	50V
C102	1-126-059-11	ELECT	10uF	20%	50V
C103	1-124-994-11	ELECT	100uF	20%	10V
C104	1-124-572-11	ELECT	100uF	20%	63V
C105	1-124-910-11	ELECT	47uF	20%	50V
C106	1-126-059-11	ELECT	10uF	20%	63V
C107	1-136-163-00	FILM	0.068uF	5%	50V
C108	1-136-163-00	FILM	0.068uF	5%	50V
C109	1-137-399-11	FILM	0.1uF	5%	100V
C110	1-124-791-11	ELECT	1uH	20%	100V
C121	1-126-867-11	ELECT	33uF	20%	50V
C123	1-162-282-31	CERAMIC (G, IT)	100PF	10%	50V
C151	1-162-290-31	CERAMIC	470PF	10%	50V
C152	1-126-059-11	ELECT	10uF	20%	50V
C153	1-124-994-11	ELECT	100uF	20%	10V
C154	1-124-572-11	ELECT	100uF	20%	63V
C155	1-124-910-11	ELECT	47uF	20%	50V
C157	1-136-163-00	FILM	0.068uF	5%	50V
C158	1-136-163-00	FILM	0.068uF	5%	50V
C160	1-124-791-11	ELECT	1.0uF	20%	100V

Ref. No.	Part No.	Description			Remark
C171	1-162-290-31	CERAMIC (G, IT)	470PF	10%	50V
C172	1-162-294-31	CERAMIC (G, IT)	0.001uF	10%	50V
C173	1-162-282-31	CERAMIC (G, IT)	100PF	10%	50V
C174	1-161-377-00	CERAMIC (G, IT)	0.0047uF	20%	16V
C175	1-161-377-00	CERAMIC (G, IT)	0.0047uF	20%	16V
C201	1-126-059-11	ELECT	10uF	20%	50V
C202	1-162-282-31	CERAMIC	100PF	10%	50V
C203	1-162-282-31	CERAMIC	100PF	10%	50V
C204	1-126-049-11	ELECT	22uF	20%	25V
C205	1-136-165-00	FILM	0.1uF	5%	50V
C206	1-136-165-00	FILM	0.1uF	5%	50V
C207	1-136-163-00	FILM	0.068uF	5%	50V
C208	1-136-163-00	FILM	0.068uF	5%	50V
C212	1-162-294-31	CERAMIC (G, IT)	0.001uF	10%	50V
C213	1-164-159-11	CERAMIC (G, IT)	0.1uF		50V
C214	1-162-290-31	CERAMIC (G, IT)	470PF	10%	50V
C215	1-106-367-00	MYLAR	0.01uF	5%	200V
C251	1-126-059-11	ELECT	10uF	20%	50V
C252	1-162-282-31	CERAMIC	100PF	10%	50V
C253	1-162-282-31	CERAMIC	100PF	10%	50V
C254	1-126-049-11	ELECT	22uF	20%	25V
C255	1-136-165-00	FILM	0.1uF	5%	50V
C256	1-136-165-00	FILM	0.1uF	5%	50V
C257	1-136-163-00	FILM	0.068uF	5%	50V
C258	1-136-163-00	FILM	0.068uF	5%	50V
C261	1-106-367-00	MYLAR	0.01uF	5%	200V
C301	1-126-101-11	ELECT	100uF	20%	16V
C302	1-126-101-11	ELECT	100uF	20%	16V
C303	1-124-994-11	ELECT	100uF	20%	10V
C601	1-126-059-11	ELECT	10uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C602	1-164-159-11	CERAMIC	0.1uF		50V
C603	1-164-159-11	CERAMIC	0.1uF		50V
C604	1-136-169-00	FILM	0.22uF	5%	50V
C605	1-136-169-00	FILM	0.22uF	5%	50V
C606	1-126-059-11	ELECT	10uF	20%	50V
C703	1-107-497-51	ELECT	4700uF	20%	63V
C704	1-107-497-51	ELECT	4700uF	20%	63V
C705	1-126-161-11	ELECT	2.2uF	20%	50V
C803	1-126-860-11	ELECT	3300uF	20%	35V
C804	1-126-860-11	ELECT	3300uF	20%	35V
C805	1-124-122-11	ELECT	100uF	20%	50V
C1210	1-126-867-11	ELECT	33uF	20%	50V
		< CONNECTOR >			
* CN101	1-564-508-11	PLUG, CONNECTOR 5P			
* CN103	1-564-507-11	PLUG, CONNECTOR 4P			
* CN105	1-564-337-61	PIN, CONNECTOR 3P			
* CN107	1-564-515-11	PLUG, CONNECTOR 12P			
* CN601	1-564-337-00	PIN, CONNECTOR 3P			
* CN901	1-568-826-11	SOCKET, CONNECTOR 7P			
		< DIODE >			
D101	8-719-815-85	DIODE	1S1585		
D102	8-719-815-85	DIODE	1S1585		
D301	8-719-815-85	DIODE	1S1585		
D302	8-719-987-63	DIODE	1N4148M		
D303	8-719-815-85	DIODE	1S1585		
D304	8-719-987-63	DIODE	1N4148M		
D403	8-719-815-85	DIODE	1S1585		
D405	8-719-815-85	DIODE	1S1585		
D601	8-719-987-63	DIODE	1N4148M		
D701	8-719-987-63	DIODE	1N4148M		
D702	8-719-987-63	DIODE	1N4148M		
D703	8-719-302-38	DIODE	RBV-602-01		
		< IC >			
IC101	8-749-921-68	IC	STK-4231MK2		
IC201	8-759-502-32	IC	SI18752N		
IC251	8-759-502-32	IC	SI18752N		
IC301	8-759-111-68	IC	uPC1237HA		
IC601	8-759-729-03	IC	NJM2903D		
IC801	8-759-231-58	IC	TA7812S		
		< COIL >			
L201	1-420-872-00	COIL, AIR CORE			
L251	1-420-872-00	COIL, AIR CORE			

Ref. No.	Part No.	Description				Remark
		< TRANSISTOR >				
Q101	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q102	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q120	8-729-900-36	TRANSISTOR	DTC124ES			
Q121	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q301	8-729-900-63	TRANSISTOR	DTA124ES			
Q302	8-729-141-30	TRANSISTOR	2SC3623A-LK			
Q303	8-729-900-89	TRANSISTOR	DTC144ES			
Q304	8-729-900-36	TRANSISTOR	DTC124ES			
Q406	8-729-141-30	TRANSISTOR	2SC3623A-LK			
Q407	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q601	8-729-140-93	TRANSISTOR	2SB733-34			
		< RESISTOR >				
R101	1-249-417-11	CARBON	1K	5%	1/4W	
R102	1-249-438-11	CARBON	56K	5%	1/4W	
R103	1-249-414-11	CARBON	560	5%	1/4W	
R104	1-249-438-11	CARBON	56K	5%	1/4W	
R105	1-249-429-11	CARBON	10K	5%	1/4W	
R106	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R107	1-212-881-11	FUSIBLE	100	5%	1/4W	F
R108	1-249-421-11	CARBON	2.2K	5%	1/4W	
R109	1-249-421-11	CARBON	2.2K	5%	1/4W	
R110	1-249-417-11	CARBON	1K	5%	1/4W	
R111	1-249-431-11	CARBON	15K	5%	1/4W	
⚠R112	1-217-156-00	METAL PLATE	0.22		5W	F
R113	1-249-441-11	CARBON	100K	5%	1/4W	
R114	1-249-397-11	CARBON	22	5%	1/4W	
R116	1-249-438-11	CARBON	56K	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W	
R118	1-247-881-00	CARBON	120K	5%	1/4W	
R119	1-249-437-11	CARBON	47K	5%	1/4W	
R120	1-249-439-11	CARBON	68K	5%	1/4W	
R121	1-249-411-11	CARBON	330	5%	1/4W	
R122	1-249-441-11	CARBON	100K	5%	1/4W	
R123	1-249-426-11	CARBON	5.6K	5%	1/4W	
R124	1-249-433-11	CARBON	22K	5%	1/4W	
R125	1-249-418-11	CARBON	1.2K	5%	1/4W	
⚠R129	1-249-389-11	CARBON	4.7	5%	1/4W	F
R151	1-249-417-11	CARBON	1K	5%	1/4W	
R152	1-249-438-11	CARBON	56K	5%	1/4W	
R153	1-249-414-11	CARBON	560	5%	1/4W	
R154	1-249-438-11	CARBON	56K	5%	1/4W	
R155	1-249-429-11	CARBON	10K	5%	1/4W	
R156	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R157	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R159	1-249-389-11	CARBON	4.7	5%	1/4W	F
R160	1-249-417-11	CARBON	1K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
R161	1-249-431-11	CARBON	15K	5%	1/4W	
⚠R162	1-217-156-00	METAL PLATE	0.22		5W	F
R163	1-249-441-11	CARBON	100K	5%	1/4W	
R164	1-249-397-11	CARBON	22	5%	1/4W	
R166	1-249-437-11	CARBON	47K	5%	1/4W	
R175	1-249-418-11	CARBON	1.2K	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-249-437-11	CARBON	47K	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-437-11	CARBON	47K	5%	1/4W	
R205	1-249-393-11	CARBON	10	5%	1/4W	
R206	1-249-438-11	CARBON	56K	5%	1/4W	
R207	1-249-393-11	CARBON	10	5%	1/4W	
R251	1-249-417-11	CARBON	1K	5%	1/4W	
R252	1-249-437-11	CARBON	47K	5%	1/4W	
R253	1-249-417-11	CARBON	1K	5%	1/4W	
R254	1-249-437-11	CARBON	47K	5%	1/4W	
R255	1-249-393-11	CARBON	10	5%	1/4W	
R256	1-249-437-11	CARBON	47K	5%	1/4W	
R257	1-249-393-11	CARBON	10	5%	1/4W	
R301	1-249-429-11	CARBON	10K	5%	1/4W	
R302	1-249-441-11	CARBON	100K	5%	1/4W	
R303	1-247-872-11	CARBON	51K	5%	1/4W	
⚠R304	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
⚠R304	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT MX, CIS)	1.8K	5%	2W	F
R305	1-249-437-11	CARBON	47K	5%	1/4W	
R306	1-249-437-11	CARBON	47K	5%	1/4W	
R308	1-249-430-11	CARBON	12K	5%	1/4W	
R309	1-249-411-11	CARBON	330	5%	1/4W	
R310	1-249-441-11	CARBON	100K	5%	1/4W	
R311	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R406	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
⚠R406	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R407	1-249-437-11	CARBON	47K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
⚠R409	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
⚠R409	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R410	1-249-429-11	CARBON	10K	5%	1/4W	
R411	1-249-441-11	CARBON	100K	5%	1/4W	
R504	1-249-417-11	CARBON	1K	5%	1/4W	
R601	1-247-807-31	CARBON	100	5%	1/4W	
R602	1-249-441-11	CARBON	100K	5%	1/4W	
R603	1-249-439-11	CARBON	68K	5%	1/4W	
R604	1-249-417-11	CARBON	1K	5%	1/4W	
R605	1-249-423-11	CARBON	3.3K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R607	1-249-417-11	CARBON	1K	5%	1/4W	
R608	1-249-418-11	CARBON	1.2K	5%	1/4W	
R609	1-249-415-11	CARBON	680	5%	1/4W	
R611	1-249-389-11	CARBON	4.7	5%	1/4W	
R701	1-249-431-11	CARBON	15K	5%	1/4W	
R702	1-249-431-11	CARBON	15K	5%	1/4W	
⚠R810	1-216-470-00	METAL OXIDE	18	5%	3W	F
⚠R811	1-216-470-00	METAL OXIDE	18	5%	3W	F
R1050	1-249-429-11	CARBON	10K	5%	1/4W	
R1060	1-249-429-11	CARBON	10K	5%	1/4W	
R1080	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1090	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1140	1-249-397-11	CARBON	22	5%	1/4W	
R1250	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1550	1-249-429-11	CARBON	10K	5%	1/4W	
R1560	1-249-429-11	CARBON	10K	5%	1/4W	
R1640	1-249-397-11	CARBON	22	5%	1/4W	
R1750	1-249-418-11	CARBON	1.2K	5%	1/4W	

< RELAY >

RY301	1-515-765-11	RELAY	
RY401	1-515-920-11	RELAY (24V)	
RY402	1-515-360-21	RELAY	

****

*	A-4369-753-A	PANEL BOARD, COMPLETE	
		**********	
	4-965-291-01	HOLDER, LED	

< CAPACITOR >

C901	1-126-059-11	ELECT	10uF	20%	50V
C902	1-126-161-11	ELECT	2.2uF	20%	50V
C903	1-126-059-11	ELECT	10uF	20%	50V
C904	1-126-163-11	ELECT	4.7uF	20%	50V
C909	1-126-059-11	ELECT	10uF	20%	50V
C951	1-126-059-11	ELECT	10uF	20%	50V
C952	1-126-161-11	ELECT	2.2uF	20%	50V
C953	1-126-059-11	ELECT	10uF	20%	50V
C954	1-126-163-11	ELECT	4.7uF	20%	50V

< CONNECTOR >

* CN902	1-568-850-11	SOCKET, CONNECTOR 7P	

< DIODE >

D503	8-719-987-63	DIODE	1N4148M
D504	8-719-313-66	LED	SEL3410E-TH12 (OPERATION)
D505	8-719-313-69	LED	SEL3210S-CD (PROTECT)

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

PANEL | POWER SW | RELAY

Ref. No.	Part No.	Description	Remark
D901	8-719-047-87	LED SEL4227C-D-TP1 (0.01)	
D902	8-719-047-87	LED SEL4227C-D-TP1 (0.06)	
D903	8-719-047-87	LED SEL4227C-D-TP1 (0.15)	
D904	8-719-047-87	LED SEL4227C-D-TP1 (0.4)	
D905	8-719-047-87	LED SEL4227C-D-TP1 (1)	
D906	8-719-047-87	LED SEL4227C-D-TP1 (3)	
D907	8-719-047-87	LED SEL4227C-D-TP1 (10)	
D908	8-719-047-87	LED SEL4227C-D-TP1 (30)	
D909	8-719-047-87	LED SEL4227C-D-TP1 (60)	
D910	8-719-047-87	LED SEL4227C-D-TP1 (125)	
D951	8-719-047-87	LED SEL4227C-D-TP1 (0.01)	
D952	8-719-047-87	LED SEL4227C-D-TP1 (0.06)	
D953	8-719-047-87	LED SEL4227C-D-TP1 (0.15)	
D954	8-719-047-87	LED SEL4227C-D-TP1 (0.4)	
D955	8-719-047-87	LED SEL4227C-D-TP1 (1)	
D956	8-719-047-87	LED SEL4227C-D-TP1 (3)	
D957	8-719-047-87	LED SEL4227C-D-TP1 (10)	
D958	8-719-047-87	LED SEL4227C-D-TP1 (30)	
D959	8-719-047-87	LED SEL4227C-D-TP1 (60)	
D960	8-719-047-87	LED SEL4227C-D-TP1 (125)	
		< IC >	
IC901	8-759-917-42	IC IR2E31A	
IC902	8-759-917-42	IC IR2E31A	
IC951	8-759-917-42	IC IR2E31A	
IC952	8-759-917-42	IC IR2E31A	
		< TRANSISTOR >	
Q505	8-729-900-63	TRANSISTOR DTA124ES	
Q506	8-729-900-36	TRANSISTOR DTC124ES	
Q903	8-729-140-93	TRANSISTOR 2SB733-34	
Q904	8-729-900-36	TRANSISTOR DTC124ES	
		< RESISTOR >	
R901	1-249-402-11	CARBON 56 5% 1/4W	
R902	1-249-441-11	CARBON 100K 5% 1/4W	
R903	1-249-402-11	CARBON 56 5% 1/4W	
R904	1-249-429-11	CARBON 10K 5% 1/4W	
R905	1-249-441-11	CARBON 100K 5% 1/4W	
R906	1-249-417-11	CARBON 1K 5% 1/4W	
R907	1-249-431-11	CARBON 15K 5% 1/4W	
R908	1-249-424-11	CARBON 3.9K 5% 1/4W	
R909	1-249-429-11	CARBON 10K 5% 1/4W	
R910	1-249-429-11	CARBON 10K 5% 1/4W	
R911	1-247-807-31	CARBON 100 5% 1/4W	
R912	1-249-416-11	CARBON 820 5% 1/4W	
R913	1-249-417-11	CARBON 1K 5% 1/4W	
R914	1-249-417-11	CARBON 1K 5% 1/4W	
R951	1-249-402-11	CARBON 56 5% 1/4W	
R952	1-249-441-11	CARBON 100K 5% 1/4W	
R953	1-249-402-11	CARBON 56 5% 1/4W	
R954	1-249-429-11	CARBON 10K 5% 1/4W	
R955	1-249-441-11	CARBON 100K 5% 1/4W	
R956	1-249-417-11	CARBON 1K 5% 1/4W	
R957	1-249-431-11	CARBON 15K 5% 1/4W	
R958	1-249-424-11	CARBON 3.9K 5% 1/4W	
		< SWITCH >	
S901	1-692-479-11	SWITCH, ROTARY (RANGE)	
S902	1-692-479-11	SWITCH, ROTARY (SPEAKERS)	
**********			
*	1-652-032-11	POWER SW BOARD	
		**********	
*	1-533-213-31	HOLDER, FUSE	
		< CAPACITOR >	
⚠C1	1-161-744-51	CERAMIC 0.01uF 400V	
		< CONNECTOR >	
CNP1	1-564-321-00	PIN, CONNECTOR 2P	
		< FUSE >	
⚠F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
⚠F1	1-532-350-00	FUSE (T4.0AL) (MX)	
⚠F2	1-567-228-31	FUSE (H.B.C) (T2.0AH)	
		< SWITCH >	
⚠S1	1-554-920-51	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
		< BASE POST >	
* TM1	1-535-142-00	BASE POST 19MM (10MM PITCH) 5P	
**********			
*	1-652-031-11	RELAY BOARD	
		**********	
		< CAPACITOR >	
C111	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C112	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C161	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C162	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C209	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
C210	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C259	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C260	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C304	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C305	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
		< CONNECTOR >				
* CN108	1-564-515-11	PLUG, CONNECTOR 12P				
CN111	1-564-517-11	PLUG, CONNECTOR 2P				
* CN702	1-569-493-11	SOCKET, CONNECTOR 7P				
		< JACK >				
J902	1-766-332-11	JACK, PIN 2P (REAR) (EXCEPT AEP, G, IT, CIS)				
		< COIL >				
L101	1-420-872-00	COIL, AIR CORE				
L102	1-420-872-00	COIL, AIR CORE				
		< RESISTOR >				
R115	1-249-397-11	CARBON	22	5%	1/4W	
R126	1-247-727-11	CARBON (G, IT)	10	5%	1/2W	
R165	1-249-397-11	CARBON	22	5%	1/4W	
R176	1-247-727-11	CARBON (G, IT)	10	5%	1/2W	
R208	1-249-393-11	CARBON	10	5%	1/4W	(G, IT)
R258	1-249-393-11	CARBON	10	5%	1/4W	(G, IT)
R307	1-249-393-11	CARBON	10	5%	1/4W	(G, IT)
R1150	1-249-397-11	CARBON	22	5%	1/4W	
R1650	1-249-397-11	CARBON	22	5%	1/4W	
		< TERMINAL >				
TM101	1-537-552-11	TERMINAL, PUSH (8P) (SPEAKER) (AEP, G, IT, CIS)				
TM102	1-537-551-11	TERMINAL, PUSH (2P) (CENTER SPEAKER)				
TM103	1-537-743-11	TERMINAL BOARD (4P) (SPEAKER) (EXCEPT AEP, G, IT, CIS)				
**********						
*	1-652-034-11	SENSOR BOARD **********				
		< CAPACITOR >				
C607	1-164-159-11	CERAMIC	0.1uF		50V	

Ref. No.	Part No.	Description				Remark
		< IC >				
IC602	8-759-947-34	IC LM35DZ				
		< RESISTOR >				
R612	1-247-807-31	CARBON	100	5%	1/4W	
**********						
*	1-652-033-11	SYSTEM CONNECTOR BOARD **********				
		< CONNECTOR >				
* CN703	1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)				
* CN704	1-566-858-31	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 3)				
CN705	1-564-511-11	PLUG, CONNECTOR 8P				
		< RESISTOR >				
R706	1-249-393-11	CARBON	10	5%	1/4W	
**********						
*	1-652-030-11	TRANSFORMER SECONDARY BOARD **********				
*	1-533-213-31	HOLDER, FUSE				
		< CAPACITOR >				
C701	1-136-177-00	FILM	1uF	5%	50V	
C702	1-136-177-00	FILM	1uF	5%	50V	
C706	1-124-920-11	ELECT	330uF	20%	63V	
C707	1-126-233-11	ELECT	22uF	20%	50V	
C708	1-124-122-11	ELECT	100uF	20%	50V	
C709	1-124-994-11	ELECT	100uF	20%	10V	
C712	1-136-161-00	FILM	0.047uF	5%	50V	
C713	1-136-161-00	FILM	0.047uF	5%	50V	
C714	1-162-306-11	CERAMIC (G, IT)	0.01uF	20%	16V	
C717	1-161-494-00	CERAMIC (G, IT)	0.022uF		25V	
C718	1-136-177-00	FILM	1uF	5%	50V	
C719	1-136-177-00	FILM	1uF	5%	50V	
C801	1-136-175-00	FILM	0.68uF	5%	50V	
C802	1-136-175-00	FILM	0.68uF	5%	50V	
		< CONNECTOR >				
* CN701	1-569-502-11	PIN, CONNECTOR 7P				
		< DIODE >				
D704	8-719-200-77	DIODE 10E2N				
D705	8-719-934-22	DIODE HZS30-2L				
D706	8-719-014-88	DIODE UZP-6.8BC				

TRANSFORMER SECONDARY VOLTAGE SELECTION

Ref. No.	Part No.	Description	Remark
D801	8-719-510-53	DIODE D4SB60L	
		< FUSE >	
⚠F701	1-532-203-00	FUSE (T2.0AL)	
⚠F702	1-532-203-00	FUSE (T2.0AL)	
⚠F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
⚠F802	1-532-203-00	FUSE, TIME-LAG (T3.15AL)	
		< TRANSISTOR >	
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
		< RESISTOR >	
⚠R703	1-212-934-00	FUSIBLE 1 5% 1/2W F	
R704	1-249-425-11	CARBON 4.7K 5% 1/4W	
R705	1-247-761-11	CARBON 5.6K 5% 1/2W	
**********			
*	1-652-036-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
		**********	
		< CONNECTOR >	
* CN2	1-573-565-11	PIN, CONNECTOR 5P (E, EA, MY, SP, JE)	
		< SWITCH >	
⚠S2	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (E, EA, MY, SP, JE)	
**********			

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
7	1-590-239-31	WIRE, FLAT TYPE (7 CORE)	
⚠63	1-751-355-11	CORD, POWER (AUS)	
⚠64	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
⚠65	1-575-656-11	CORD, POWER (E, MX, JE)	
⚠CNJ1	1-251-078-11	OUTLET, AC (AC OUTLET) (AUS)	
⚠CNJ1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA, MY, SP, CIS)	
⚠CNJ1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, MX, JE)	
⚠F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
⚠F1	1-532-350-00	FUSE (T4.0AL) (MX)	
⚠F2	1-576-228-31	FUSE (H.B.C.) (T2.0AH)	
⚠F701	1-532-203-00	FUSE (T2.0AL)	
⚠F702	1-532-203-00	FUSE (T2.0AL)	
⚠F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
⚠F802	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
M901	1-698-380-11	MOTOR, FAN (DC)	
⚠T1	1-426-722-11	TRANSFORMER, POWER (AEP, G, IT, CIS)	
⚠T1	1-426-723-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
⚠T1	1-426-857-11	TRANSFORMER, POWER (MX)	

****

****
HARDWARE LIST
****

#1	7-621-849-00	SCREW (BV/RING)
#2	7-682-547-09	SCREW +BVTT 3X6 (S)
#3	7-682-548-04	SCREW +BVTT 3X8 (S)
#4	7-682-560-04	SCREW +BVTT 4X6 (S)
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#6	7-685-646-81	SCREW +BVTP 3X8 TYPE2
#7	7-685-650-79	SCREW +BVTP 3X16 TYPE2

****

ACCESSORIES & PACKING MATERIALS
****

*	4-965-421-02	CUSHION

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

9-959-442-11

Sony Corporation
Consumer A & V Products Company
Home A & V Products Div.

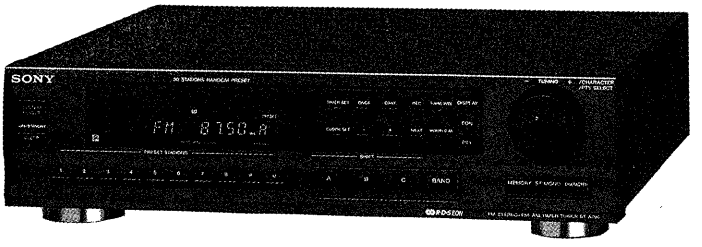
English
94D0470-1
Printed in Japan

Published by Home A & V Products Div.
Quality Engineering Dept.

ST-A790

SERVICE MANUAL

AEP Model



• This set is the tuner section in LBT-A590/A595/A790/A795.

SPECIFICATIONS

Tuner

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	(German model) AM: 531 to 1,602 kHz (Italian model) AM: 522 to 1,611 kHz (AEP model) MW: 531 to 1,602 kHz LW: 153 to 279 kHz
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz

Power requirements	220 – 230 V AC, 50/60 Hz
Power consumption	10 W
AC outlet	2 switched, total 450 W max.
Weight	Approx. 2.6 kg (5 lbs 12 oz)
Dimensions	Approx. 355 x 95 x 325 mm (14 x $3\frac{3}{4}$ x $12\frac{13}{16}$ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

使用時は添付資料も参照のこと
Refer to the additional documents

FM STEREO/FM-AM TIMER TUNER

SONY®

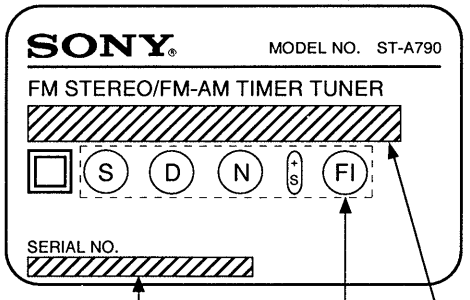
SECTION 1
GENERAL

This section is extracted from instruction manual.

TABLE OF CONTENTS

MODEL IDENTIFICATION

— Specification Labels —



AEP, Italian model : AC : 220 — 230V~50/60Hz 10W
German model : SYSTEM LBT-A590
SYSTEM LBT-A790
AC : 220 — 230V~50/60Hz 10W

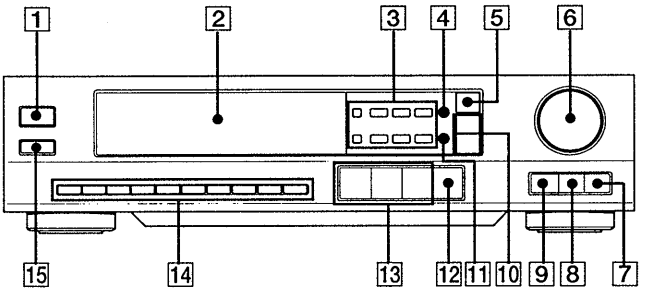
Location of Controls

Refer to the pages indicated in parenthesis for details.

Tuner (ST-A790) A

1 SYSTEM POWER switch (18)
2 Display window
3 Buttons for setting the clock and timer (16, 116, 120)
4 TUNING MODE button (22)
5 DISPLAY button (30)
6 TUNING knob (22)
7 CHARACTER button (28)
8 ST/MONO button (22)
9 MEMORY button (26)
10 RDS setting buttons (108, 112)
11 MEMORY SCAN button (30)
12 BAND selector (22)
13 SHIFT buttons (A, B, C)(26)
14 Numeric buttons (26)
15 SLEEP button (114)

A



SECTION 2
ELECTRICAL ADJUSTMENTS

Precautions in Repairing

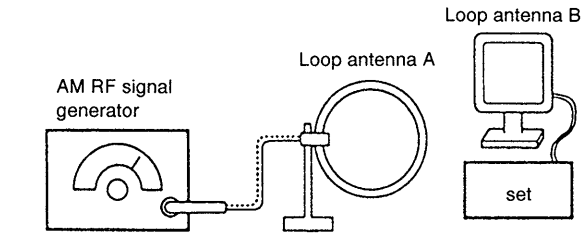
If the front end unit fails, it is difficult to repair the inner circuits, so replace the entire front end unit.

The FM TUNED level must be adjusted after the AM TUNED level adjustment has completed.

AM SECTION

AM Tuning Level Adjustment

Setting :
BAND switch : AM or MW

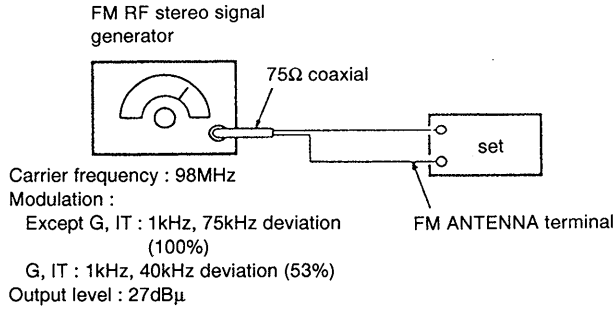


Procedure :
1. Set loop antenna A so that the loop antenna B input level becomes 58dBμ/m.
2. Tune the set to 999kHz.
3. Adjust the RV1 so that the TUNED indicator goes on.

FM SECTION

FM Tuning Level Adjustment

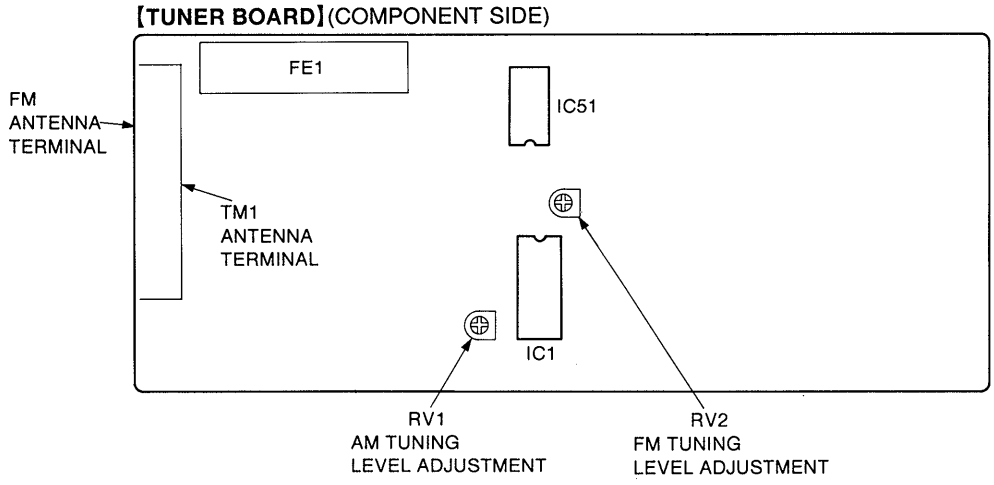
Setting :
BAND switch : FM



Procedure :
1. Tune the set to 98MHz.
2. Adjust RV2 so that the TUNED indicator goes on.

• G : German model
• IT : Italian model

Adjustment Location :



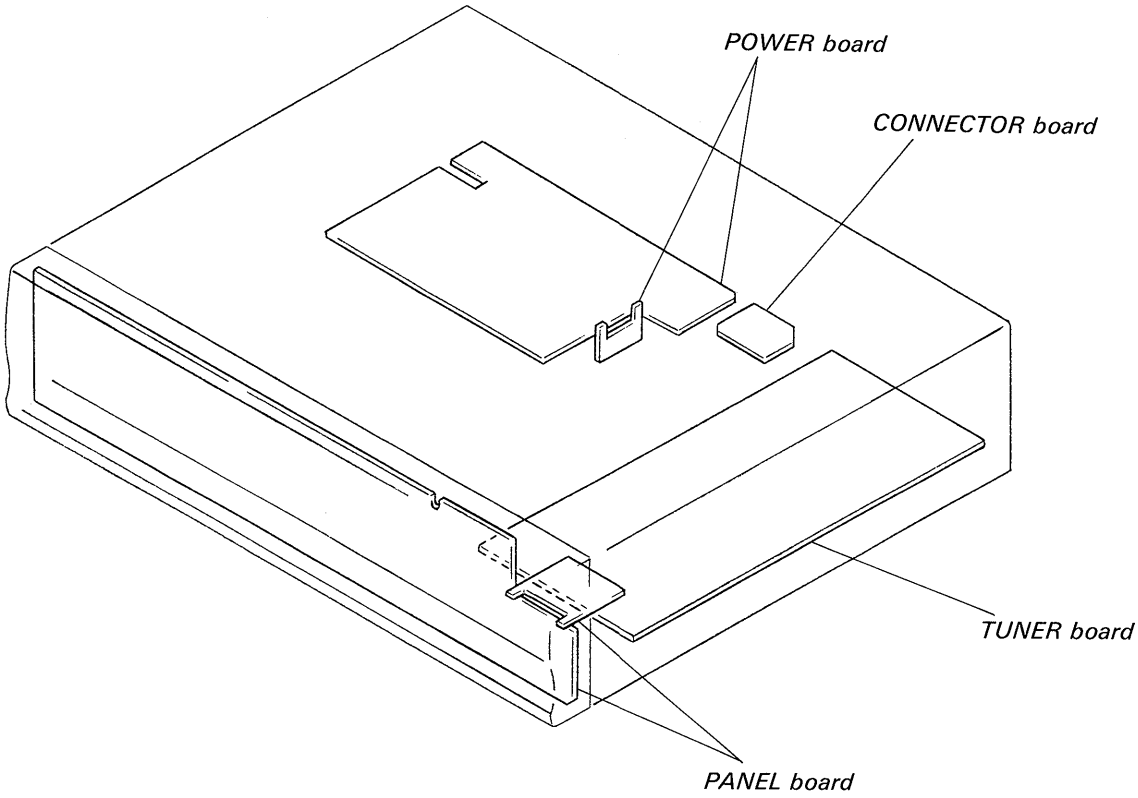
SECTION 3
DIAGRAMS

3-1. IC PIN FUNCTION

• IC601 SYSTEM CONTROL MICROPROCESSOR (μPD78043GF-079-3B9)

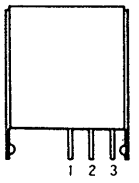
Pin No.	Pin Name	I/O	Function
1 — 7	T6 — T0	O	Digit signal output to the FL tube (FL601)
8	VDD	—	Power supply terminal (+5V)
9	RDS CLOCK	I	RDS clock signal input from the RDS decoder (IC83 LC7073M)
10	—	I	Not used (connected to ground)
11	RDS DATA	I	RDS data signal input from the RDS decoder (IC83 LC7073M)
12	RDS RESET	O	Reset signal output to the RDS decoder (IC83 LC7073M)
13	LATCH	O	Latch signal output to the PLL (IC51 LC7218)
14	CLOCK	O	Clock signal output to the PLL (IC51 LC7218)
15	DATA OUT	O	Data signal output to the PLL (IC51 LC7218)
16	DATA IN	I	Data signal input from the PLL (IC51 LC7218)
17	RESET	I	System reset input
18	TUNED	I	TUNED indication signal input
19	STEREO	I	STEREO indication signal input
20	A/D GND	—	Ground for A/D conversion
21 — 25	—	I	Not used (connected to ground)
26 — 28	KEY IN	I	Key input terminal (A/D input)
29	A/D +5V	—	Analog power supply for A/D conversion (+5V)
30	A/D REF +5V	—	Reference voltage input for A/D conversion (+5V)
31	—	I	Not used (connected to ground)
32	—	—	Not used (open)
33	SYS GND	—	System ground terminal
34	X1	I	Main system clock input (4.194304 MHz)
35	X2	O	Main system clock output
36	RDS EON OUT	O	RDS EON output
37	F MONI	O	F monitor output (2048 Hz) Not used this set (open)
38 — 42	—	I	Not used (connected to ground)
43	CD BUSY	I	CD busy input Not used this set (connected to ground)
44	RDS START	I	RDS data start control signal input from the RDS decoder (IC83 LC7073M)
45	SIRCS	I	Sircs signal input from the remote control receiver (IC602)
46	AUB IN	I	Audio bus input
47	INTP0	I	Power failure detection input
48	GND	—	Ground terminal
49	AUB OUT	O	Audio bus output
50	MUTING	O	Muting signal output
51	RELAY	O	Power ON/OFF control output to RY801
52	VDD	—	Power supply terminal (+5V)
53 — 55	—	I	Not used (connected to ground)
56	EON USING	I	Initial setting input (EON)
57	EON ACTIVE	I	Initial setting input (EON active)
58	AUTO TUN	I	Initial setting input (AUTO TUN)
59, 60	VERSION	I	Initial setting input (the distination)
61 — 70	S15 — S6	O	Segment signal output to the FL tube (FL601)
71	-30V	—	Negative power supply for the FL tube (FL601)
72 — 77	S5 — S0	O	Segment signal output to the FL tube (FL601)
79 — 80	T9 — T7	O	Digit signal output to the FL tube (FL601)

3-2. CIRCUIT BOARDS LOCATION



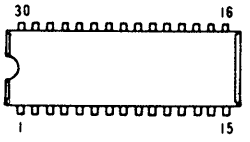
3-3. SEMICONDUCTOR LEAD LAYOUTS

GP1U52XB



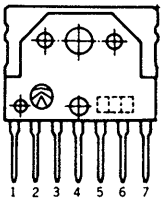
1 Vout
2 Vcc
3 GND

LA1835

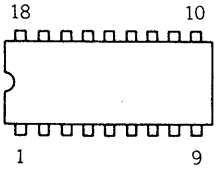


(Top view)

LA5667

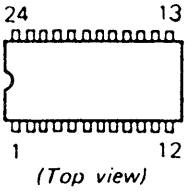


LC7013



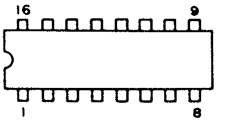
(Top view)

LC7218-ST



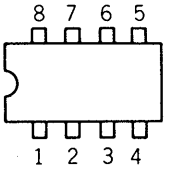
(Top view)

SAA6579



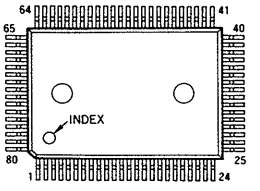
(TOP VIEW)

μPC4558C



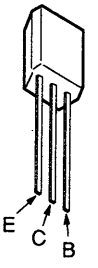
(Top view)

μPD78043GF-079-3B9

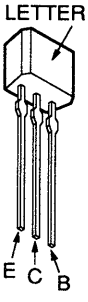


(TOP VIEW)

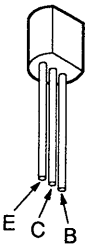
DTA114EK
DTC114EK
2SC2603-EF
2SC2669-OY



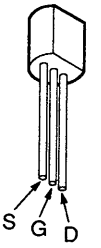
2SA1175-HFE



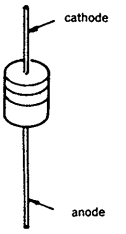
2SB1116A-L
2SC3112-B



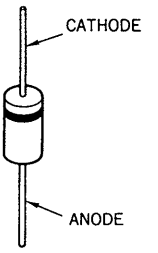
2SK246-GR3



HZS30-2L
UZL-9M3
1N4148M
11ES2



UZP-5.6B
UZP-8.2BC



3-4. PRINTED WIRING BOARD –TUNER Section–

● See page 5 for Circuit Boards Location. ● See page 6 for Semiconductor Lead Layouts.

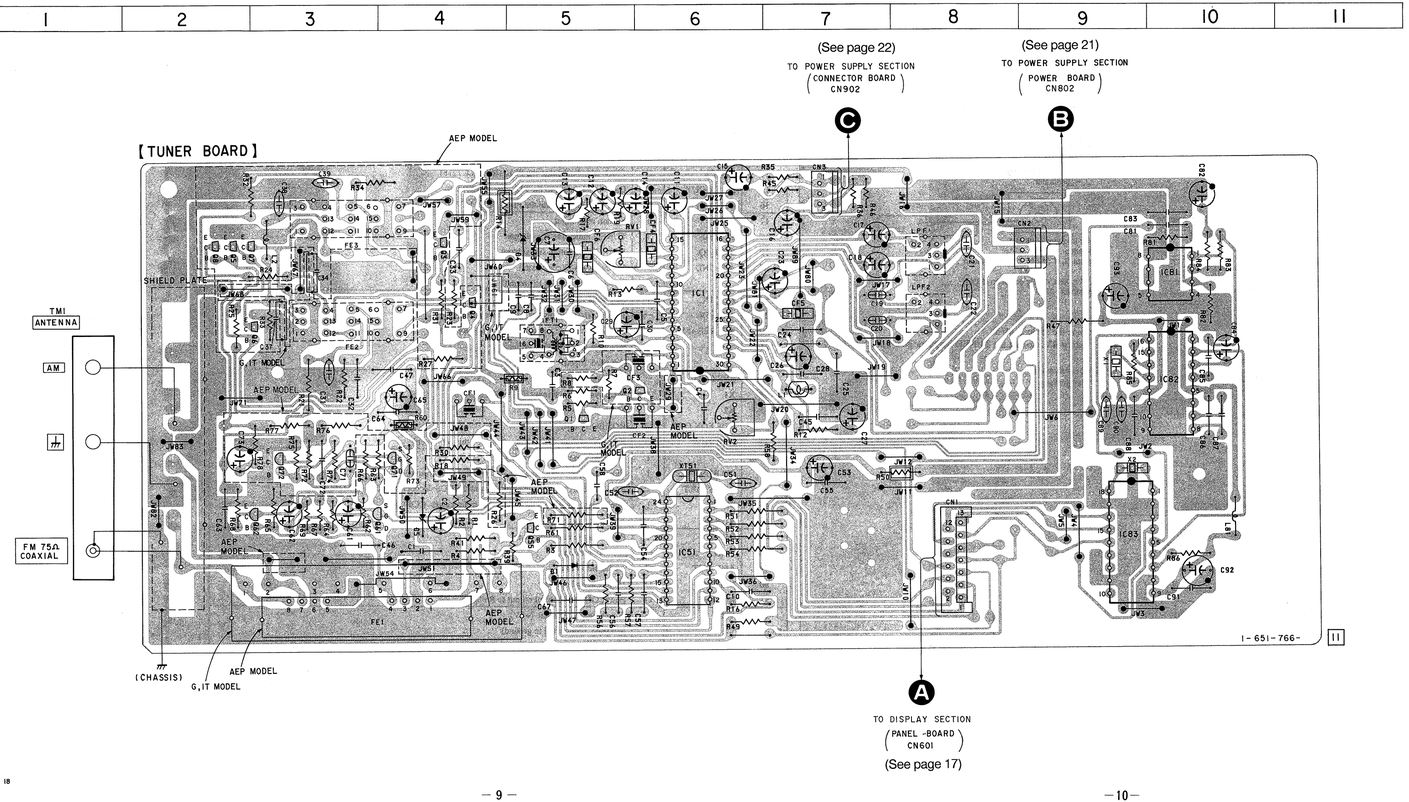
• Semiconductor Location

Ref. No.	Location
D1	E - 5
D4	B - 5
D5	D - 4
IC1	C - 6
IC51	E - 6
IC81	B - 10
IC82	C - 10
IC83	D - 9
Q1	D - 5
△ Q2	C - 6
○ Q3	B - 4
○ Q4	C - 4
○ Q5	B - 2
○ Q6	C - 3
○ Q7	B - 2
○ Q8	B - 2
Q55	D - 5
Q61	D - 3
Q62	D - 3
○ Q71	D - 4
○ Q72	D - 3

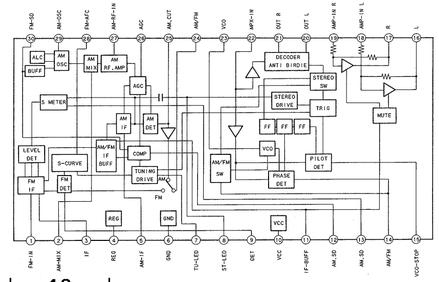
○ : AEP MODEL
△ : G, IT MODEL

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- ⊡ indicates side identified with part number.
- ▨ : Pattern on the side which is seen.
- Abbreviations
  G : German
  IT : Italian



● IC Block Diagrams IC1 LA1835



Note on Schematic Diagram:

- All capacitors are in μF unless noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ⟨NONFL⟩ : nonflammable resistor.

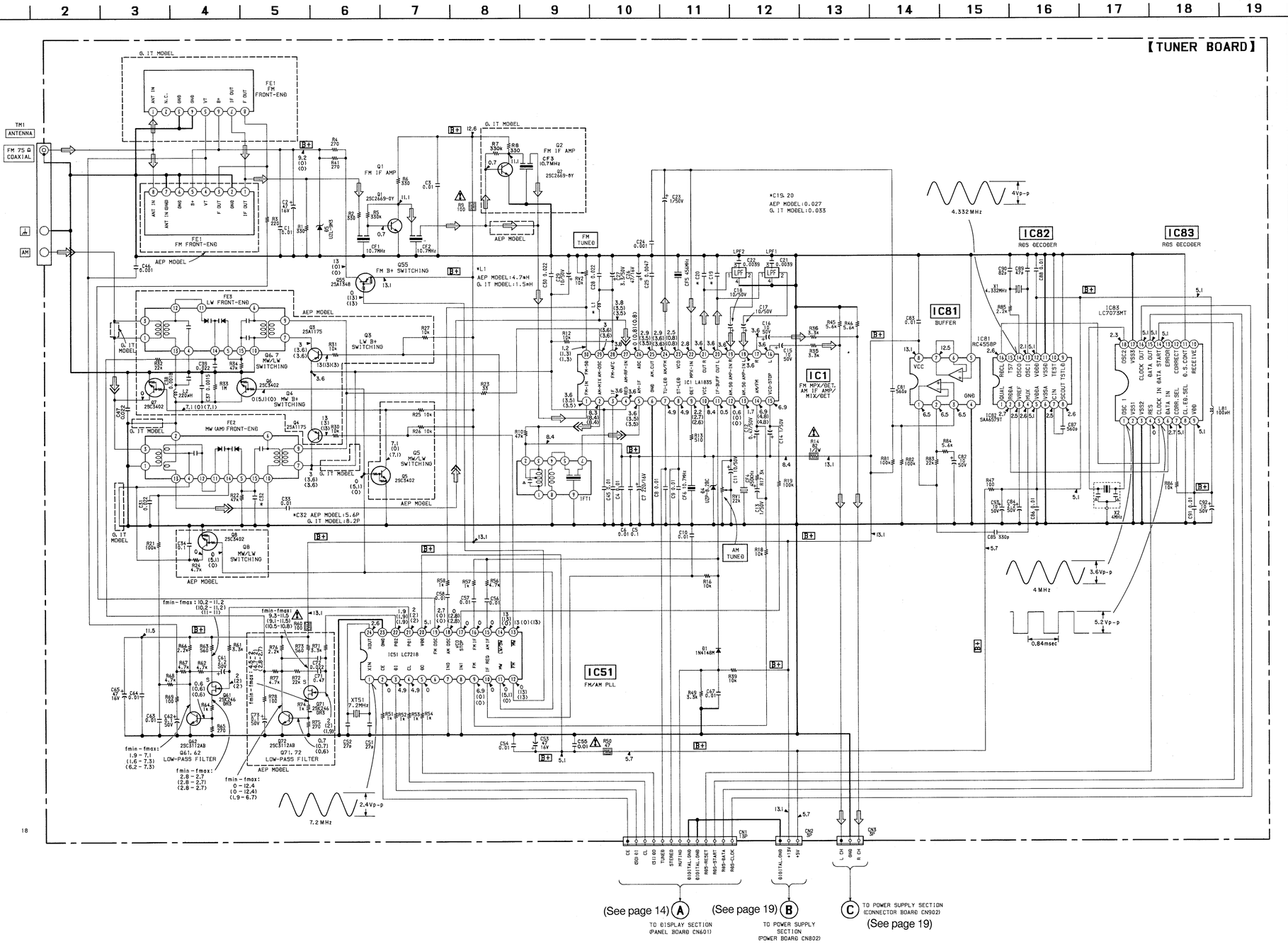
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line
- ▭ : adjustment for repair.

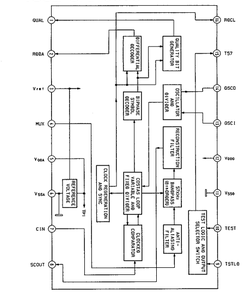
- Voltage and waveforms are dc with respect to ground under detuned conditions.
  no mark : FM
  ( ) : AM or LW
  < > : LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : MW (AM) or LW
- Abbreviations
  G : German
  IT : Italian

3-5. SCHEMATIC DIAGRAM —TUNER Section—

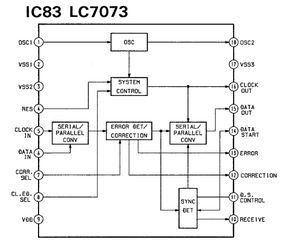
【TUNER BOARD】



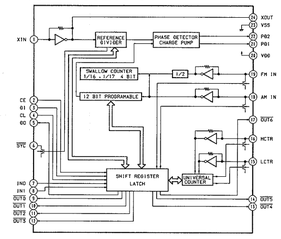
IC82 SAA6579



IC83 LC7073



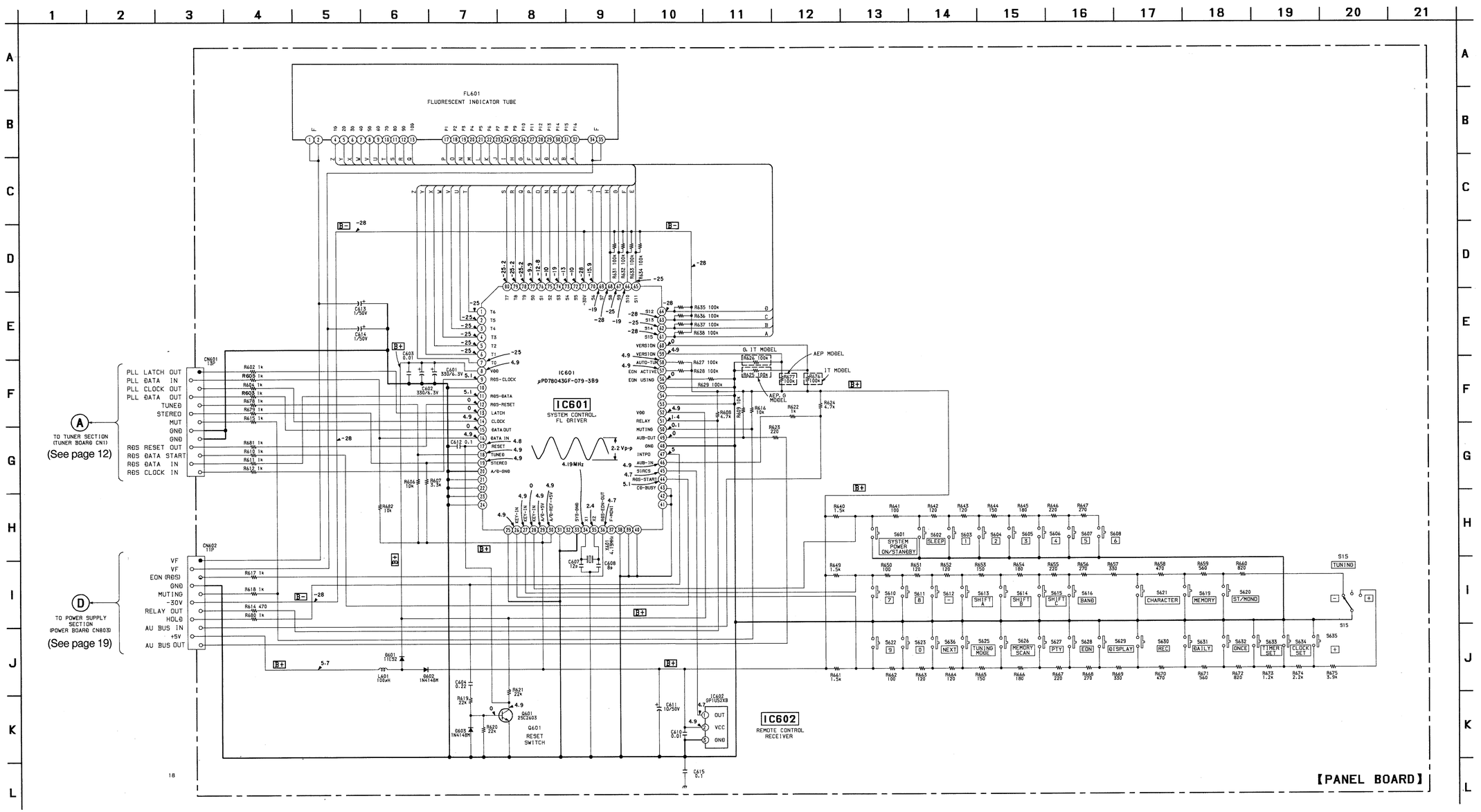
IC51 LC7218-ST



Note on Schematic Diagram:

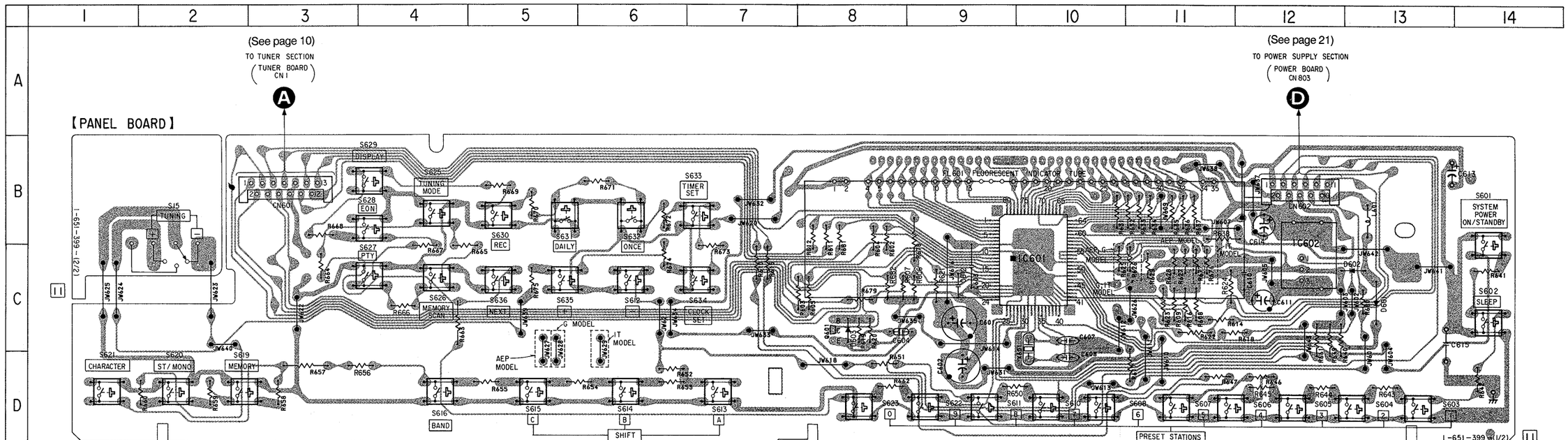
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- B+ : B+ Line
- B− : B− Line
- Voltage and waveforms are dc with respect to ground under detuned conditions.
  no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Abbreviations
  G : German
  IT : Italian

3-6. SCHEMATIC DIAGRAM —DISPLAY SECTION—



3-7. PRINTED WIRING BOARD —DISPLAY Section—

● See page 5 for Circuit Boards Location. ● See page 6 for Semiconductor Lead Layouts.



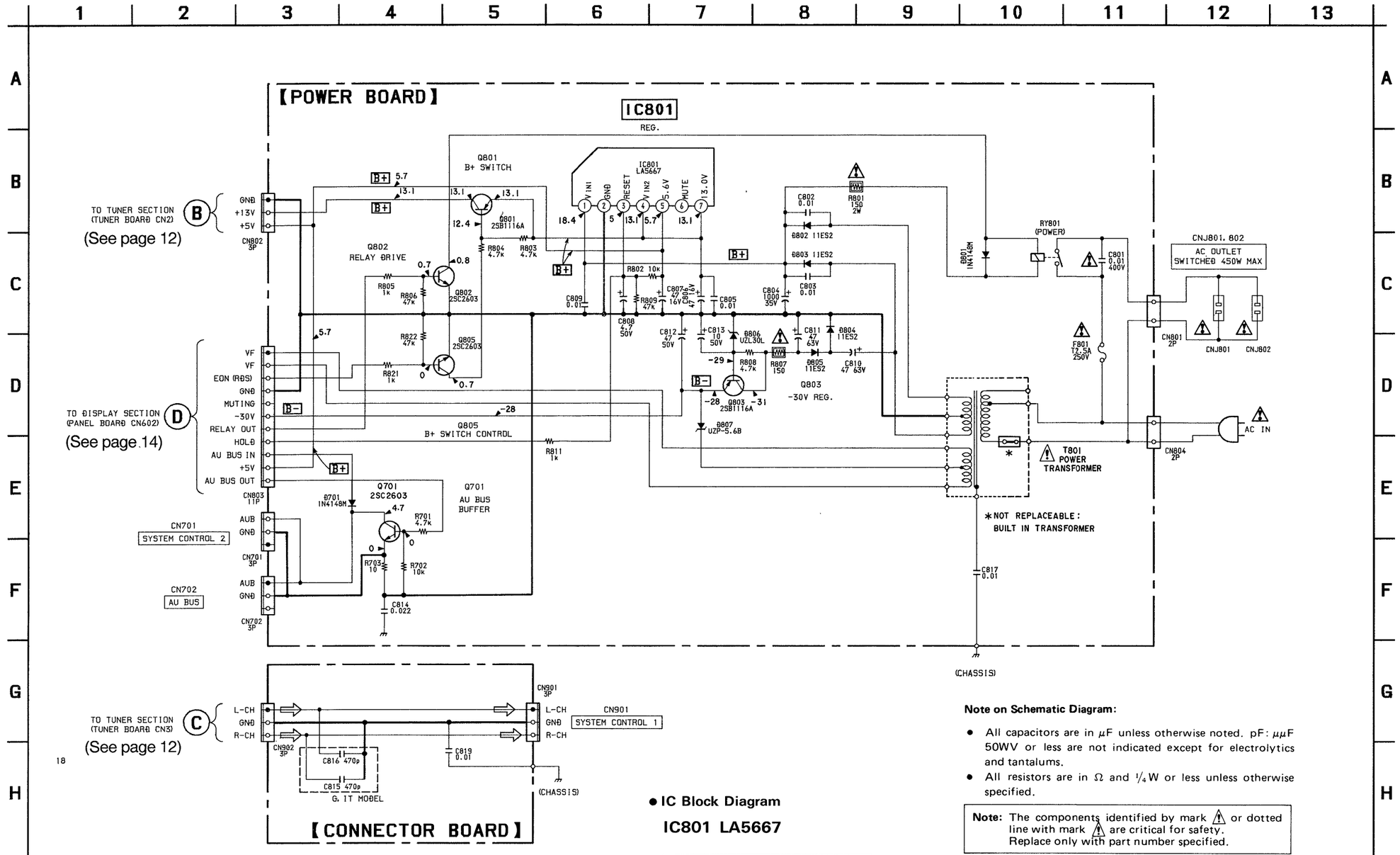
• **Semiconductor Location**

Ref. No.	Location
D601	C - 13
D602	C - 13
D603	C - 8
IC601	C - 10
IC602	B - 12
Q601	C - 8

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▒▒ : Pattern on the side which is seen.
- Abbreviations
  G : German
  IT : Italian

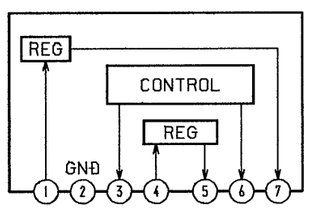
3-8. SCHEMATIC DIAGRAM —POWER SUPPLY Section—



18

● IC Block Diagram

IC801 LA5667



Note on Schematic Diagram:

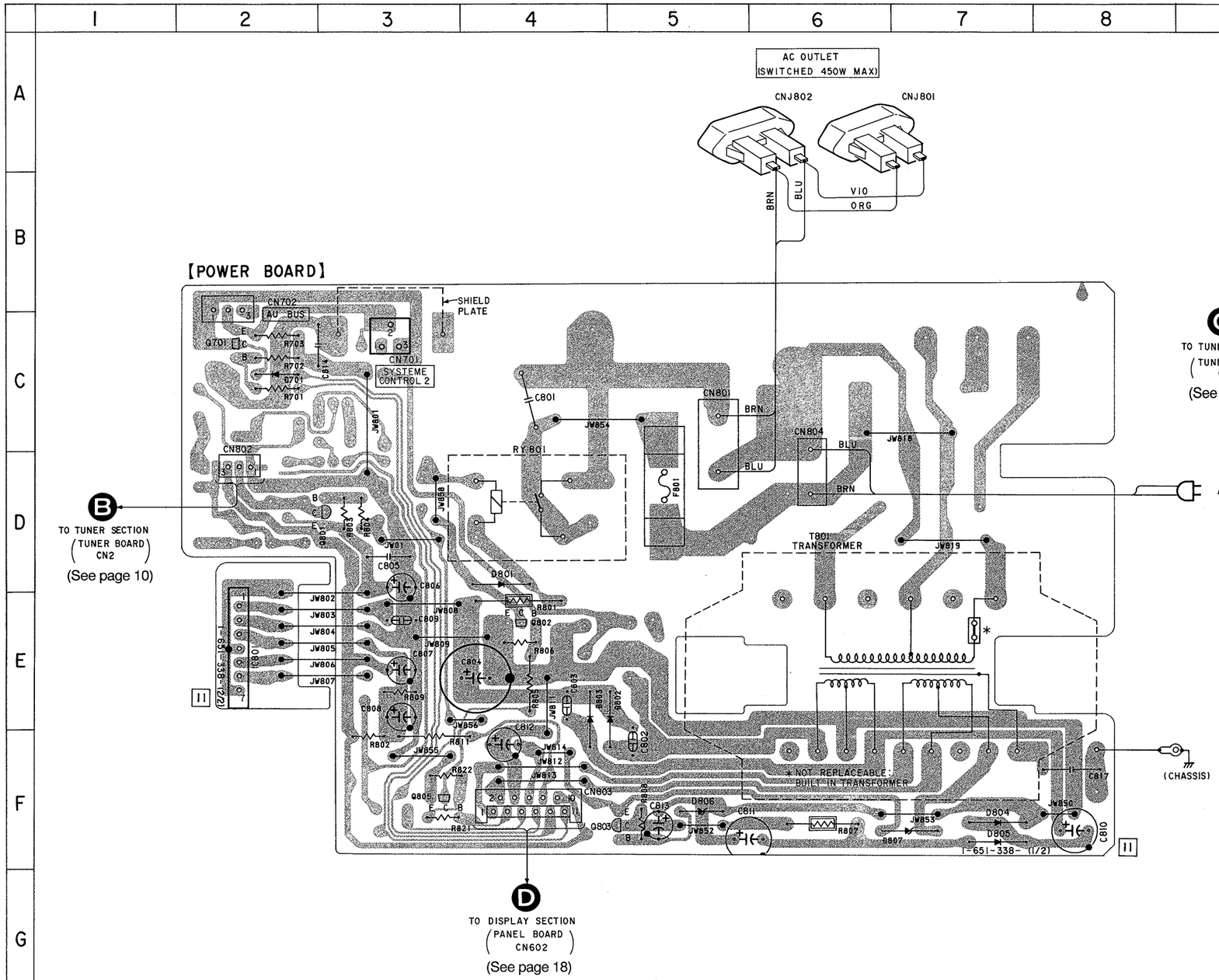
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line
- B− : B− Line
- Voltage and waveforms are dc with respect to ground under detuned conditions.
  no mark : FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- Abbreviations
  G : German
  IT : Italian

3-9. PRINTED WIRING BOARDS —POWER SUPPLY Section—

● See page 5 for Circuit Boards Location. ● See page6 for Semiconductor Lead Layouts.



• Semiconductor Location

Ref. No.	Location
D701	C - 2
D801	D - 4
D802	E - 5
D803	E - 4
D804	F - 7
D805	F - 7
D806	F - 5
D807	F - 7
IC801	E - 2
Q701	C - 2
Q801	D - 3
Q802	E - 4
Q803	F - 5
Q805	F - 3

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- Abbreviations
  G : German
  IT : Italian

SECTION 4
EXPLODED VIEW

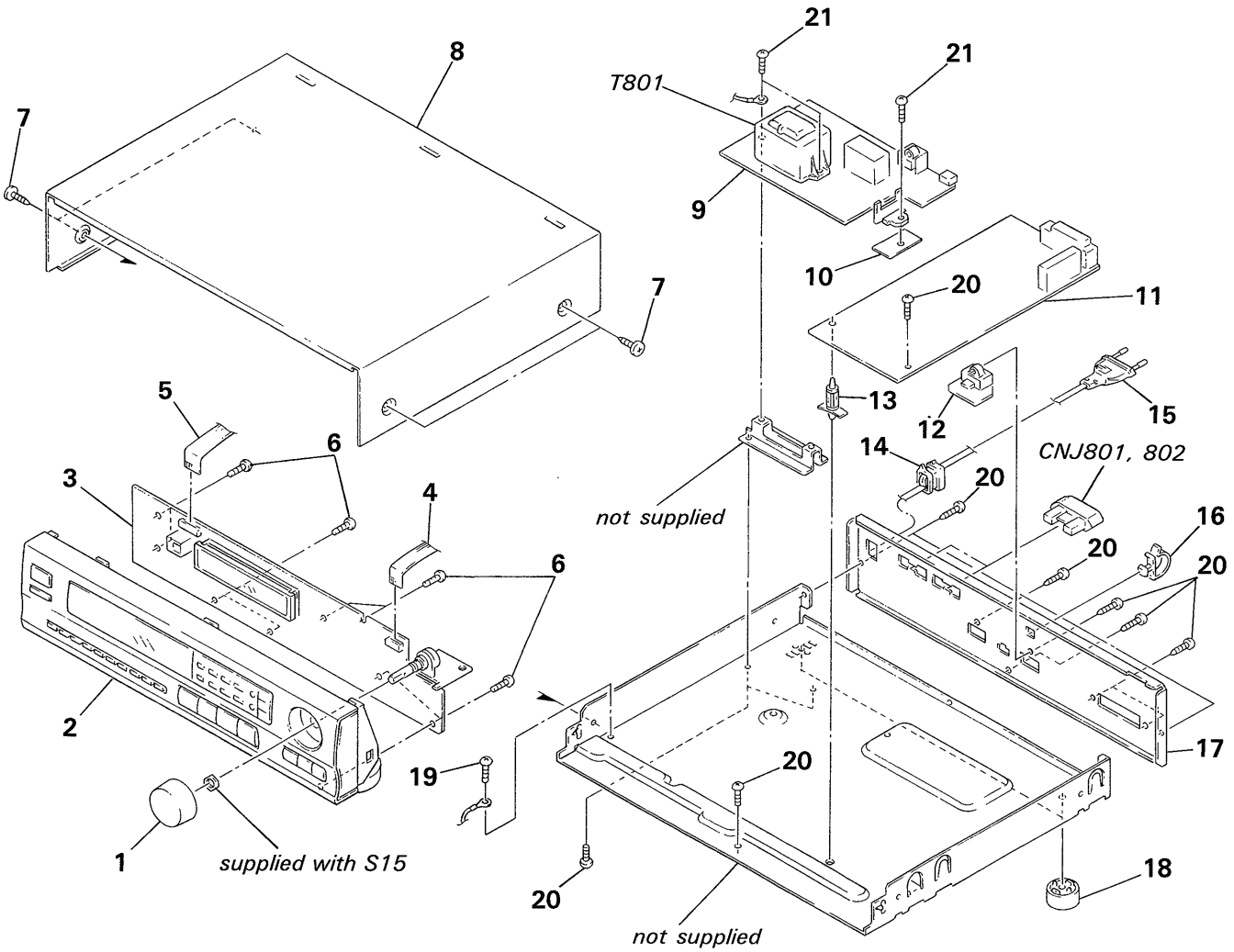
NOTE:

- -xx,-x mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Abbreviations
  G : German
  IT : Italian

4-1. CABINET SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
1	4-930-861-01	KNOB (MADE IN JAPAN)	
1	4-930-861-41	KNOB (MADE IN FRANCE)	
2	X-4944-626-2	PANEL ASSY (790), FRONT (MADE IN JAPAN)	
2	X-4944-627-2	PANEL ASSY (790//F), FRONT (MADE IN FRANCE)	
*3	A-4369-472-A	PANEL BOARD, COMPLETE (AEP:MADE IN JAPAN)	
*3	A-4369-492-A	PANEL BOARD, COMPLETE (IT:MADE IN JAPAN)	
*3	A-4369-494-A	PANEL BOARD, COMPLETE (G:MADE IN JAPAN)	
*3	A-4369-498-A	PANEL BOARD, COMPLETE (AEP:MADE IN FRANCE)	
*3	A-4369-505-A	PANEL BOARD, COMPLETE (G:MADE IN FRANCE)	
*3	A-4369-508-A	PANEL BOARD, COMPLETE (IT:MADE IN FRANCE)	
4	1-751-688-11	WIRE (FLAT TYPE) (13 CORE)	
5	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
6	4-951-620-01	SCREW (2.6X8), +BVTP	
7	3-363-099-01	SCREW (CASE 3 TP2) (MADE IN JAPAN)	
7	3-704-366-01	SCREW (CASE) (M3X8) (MADE IN FRANCE)	
*8	4-919-376-31	CASE (MADE IN FRANCE)	
*8	4-939-802-71	CASE (MADE IN JAPAN)	
*9	A-4369-471-A	POWER BOARD, COMPLETE (AEP:MADE IN JAPAN)	
*9	A-4369-493-A	POWER BOARD, COMPLETE (G,IT:MADE IN JAPAN)	
*9	A-4369-497-A	POWER BOARD, COMPLETE (AEP:MADE IN FRANCE)	
*9	A-4369-504-A	POWER BOARD, COMPLETE (G,IT:MADE IN FRANCE)	
*10	4-937-354-01	SHEET	
*11	A-4369-470-A	TUNER BOARD, COMPLETE (AEP:MADE IN JAPAN)	
*11	A-4369-496-A	TUNER BOARD, COMPLETE (G,IT:MADE IN JAPAN)	
*11	A-4369-500-A	TUNER BOARD, COMPLETE (AEP:MADE IN FRANCE)	
*11	A-4369-507-A	TUNER BOARD, COMPLETE (G,IT:MADE IN FRANCE)	
*12	1-651-340-11	CONNECTOR BOARD	
*13	4-924-098-31	HOLDER, PC BOARD (MADE IN FRANCE)	
*13	4-954-051-51	HOLDER, PC BOARD (MADE IN JAPAN)	
*14	3-703-244-00	BUSHING (2104), CORD	
⚠15	1-575-651-11	CORD, POWER (MADE IN JAPAN)	
⚠15	1-575-651-21	CORD, POWER (MADE IN FRANCE)	
*16	4-949-235-01	HOOK	
*17	4-964-089-01	PANEL, BACK (AEP:MADE IN JAPAN)	
*17	4-964-330-01	PANEL (2), BACK (AEP:MADE IN JAPAN)	
*17	4-964-330-21	PANEL (2), BACK (G:MADE IN FRANCE)	
*17	4-964-330-31	PANEL (2), BACK (IT:MADE IN FRANCE)	
*17	4-964-330-51	PANEL (2), BACK (G:MADE IN JAPAN)	
*17	4-964-330-61	PANEL (2), BACK (IT:MADE IN JAPAN)	
18	4-931-169-01	FOOT	
19	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
20	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
21	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
⚠CNJ801	1-526-794-11	OUTLET, AC (AC OUTLET)	
⚠CNJ802	1-526-794-11	OUTLET, AC (AC OUTLET)	
⚠T801	1-426-809-11	TRANSFORMER, POWER	

SECTION 5
ELECTRICAL PARTS LIST

CONNECTOR **PANEL**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA··· : μA···, uPA··· : μPA···, uPB··· : μPB···, uPC··· : μPC···, uPD··· : μPD···
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Abbreviations
  G : German
  IT : Italian

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	1-651-340-11	CONNECTOR BOARD			
		**********			
		< CAPACITOR >			
C815	1-164-081-11	CERAMIC	470PF	10%	50V (G, IT)
C816	1-164-081-11	CERAMIC	470PF	10%	50V (G, IT)
C819	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
*CN901	1-569-625-41	SOCKET, CONNECTOR 3P (SYSTEM CONTROL 1)			
*CN902	1-564-337-61	PIN, CONNECTOR 3P			
**********					
*	A-4369-472-A	PANEL BOARD, COMPLETE(AEP:MADE IN JAPAN)			
*	A-4369-492-A	PANEL BOARD, COMPLETE(IT:MADE IN JAPAN)			
*	A-4369-494-A	PANEL BOARD, COMPLETE(G:MADE IN JAPAN)			
*	A-4369-498-A	PANEL BOARD, COMPLETE (AEP:MADE IN FRANCE)			
*	A-4369-505-A	PANEL BOARD, COMPLETE(G:MADE IN FRANCE)			
*	A-4369-508-A	PANEL BOARD, COMPLETE(IT:MADE IN FRANCE)			
		**********			
*	4-921-941-01	CUSHION (FL)			
*	4-923-103-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C601	1-126-245-11	ELECT	330uF	20%	6.3V
C602	1-126-245-11	ELECT	330uF	20%	6.3V
C603	1-161-379-00	CERAMIC	0.01uF	20%	25V
C604	1-136-169-00	FILM	0.22uF	5%	50V
C607	1-164-048-11	CERAMIC	12PF	5%	50V
C608	1-164-017-11	CERAMIC	8PF	0.5PF	50V
C610	1-161-379-00	CERAMIC	0.01uF	20%	25V
C611	1-124-261-00	ELECT	10uF	20%	50V
C612	1-164-159-11	CERAMIC	0.1uF		50V
C613	1-126-301-11	ELECT	1uF	20%	50V
C614	1-126-301-11	ELECT	1uF	20%	50V
C615	1-164-159-11	CERAMIC	0.1uF		50V

Ref.No.	Part No.	Description			Remark
		< CONNECTOR >			
*CN601	1-568-856-11	SOCKET, CONNECTOR 13P			
*CN602	1-568-854-11	SOCKET, CONNECTOR 11P			
		< DIODE >			
D601	8-719-200-82	DIODE	11ES2		
D602	8-719-987-63	DIODE	1N4148M		
D603	8-719-987-63	DIODE	1N4148M		
		< FLUORESCENT INDICATOR TUBE >			
FL601	1-517-265-21	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-519-16	IC	uPD78043GF-079-3B9		
IC602	8-749-920-83	IC	GP1U52XB		
		< COIL >			
L601	1-410-521-11	INDUCTOR	100uH		
		< TRANSISTOR >			
Q601	8-729-620-05	TRANSISTOR	2SC2603-EF		
		< RESISTOR >			
R602	1-249-417-11	CARBON	1K	5%	1/4W
R603	1-249-417-11	CARBON	1K	5%	1/4W
R604	1-249-417-11	CARBON	1K	5%	1/4W
R605	1-249-417-11	CARBON	1K	5%	1/4W
R606	1-249-429-11	CARBON	10K	5%	1/4W
R607	1-249-423-11	CARBON	3.3K	5%	1/4W
R608	1-249-425-11	CARBON	4.7K	5%	1/4W
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-417-11	CARBON	1K	5%	1/4W
R611	1-249-417-11	CARBON	1K	5%	1/4W
R612	1-249-417-11	CARBON	1K	5%	1/4W
R614	1-249-413-11	CARBON	470	5%	1/4W
R615	1-249-417-11	CARBON	1K	5%	1/4W
R616	1-249-429-11	CARBON	10K	5%	1/4W
R617	1-249-417-11	CARBON	1K	5%	1/4W

PANEL

Ref.No.	Part No.	Description				Remark
R618	1-249-417-11	CARBON	1K	5%	1/4W	
R619	1-249-433-11	CARBON	22K	5%	1/4W	
R620	1-249-433-11	CARBON	22K	5%	1/4W	
R621	1-249-433-11	CARBON	22K	5%	1/4W	
R622	1-249-417-11	CARBON	1K	5%	1/4W	
R623	1-249-409-11	CARBON	220	5%	1/4W	
R624	1-249-425-11	CARBON	4.7K	5%	1/4W	
R625	1-249-441-11	CARBON	100K	5%	1/4W	(AEP,G)
R626	1-249-441-11	CARBON	100K	5%	1/4W	(G,IT)
R627	1-249-441-11	CARBON	100K	5%	1/4W	
R628	1-249-441-11	CARBON	100K	5%	1/4W	
R629	1-249-441-11	CARBON	100K	5%	1/4W	
R631	1-249-441-11	CARBON	100K	5%	1/4W	
R632	1-249-441-11	CARBON	100K	5%	1/4W	
R633	1-249-441-11	CARBON	100K	5%	1/4W	
R634	1-249-441-11	CARBON	100K	5%	1/4W	
R635	1-249-441-11	CARBON	100K	5%	1/4W	
R636	1-249-441-11	CARBON	100K	5%	1/4W	
R637	1-249-441-11	CARBON	100K	5%	1/4W	
R638	1-249-441-11	CARBON	100K	5%	1/4W	
R640	1-249-419-11	CARBON	1.5K	5%	1/4W	
R641	1-247-807-31	CARBON	100	5%	1/4W	
R642	1-249-406-11	CARBON	120	5%	1/4W	
R643	1-249-406-11	CARBON	120	5%	1/4W	
R644	1-247-811-31	CARBON	150	5%	1/4W	
R645	1-249-408-11	CARBON	180	5%	1/4W	
R646	1-249-409-11	CARBON	220	5%	1/4W	
R647	1-249-410-11	CARBON	270	5%	1/4W	
R649	1-249-419-11	CARBON	1.5K	5%	1/4W	
R650	1-247-807-31	CARBON	100	5%	1/4W	
R651	1-249-406-11	CARBON	120	5%	1/4W	
R652	1-249-406-11	CARBON	120	5%	1/4W	
R653	1-247-811-31	CARBON	150	5%	1/4W	
R654	1-249-408-11	CARBON	180	5%	1/4W	
R655	1-249-409-11	CARBON	220	5%	1/4W	
R656	1-249-410-11	CARBON	270	5%	1/4W	
R657	1-249-411-11	CARBON	330	5%	1/4W	
R658	1-249-413-11	CARBON	470	5%	1/4W	
R659	1-249-414-11	CARBON	560	5%	1/4W	
R660	1-249-416-11	CARBON	820	5%	1/4W	
R661	1-249-419-11	CARBON	1.5K	5%	1/4W	
R662	1-247-807-31	CARBON	100	5%	1/4W	
R663	1-249-406-11	CARBON	120	5%	1/4W	
R664	1-249-406-11	CARBON	120	5%	1/4W	
R665	1-247-811-31	CARBON	150	5%	1/4W	
R666	1-249-408-11	CARBON	180	5%	1/4W	
R667	1-249-409-11	CARBON	220	5%	1/4W	
R668	1-249-410-11	CARBON	270	5%	1/4W	
R669	1-249-411-11	CARBON	330	5%	1/4W	
R670	1-249-413-11	CARBON	470	5%	1/4W	
R671	1-249-414-11	CARBON	560	5%	1/4W	
R672	1-249-416-11	CARBON	820	5%	1/4W	
R673	1-249-418-11	CARBON	1.2K	5%	1/4W	
R674	1-249-421-11	CARBON	2.2K	5%	1/4W	
R675	1-249-424-11	CARBON	3.9K	5%	1/4W	
R676	1-249-441-11	CARBON	100K	5%	1/4W	(IT)
R677	1-249-441-11	CARBON	100K	5%	1/4W	(AEP)
R678	1-249-417-11	CARBON	1K	5%	1/4W	
R679	1-249-417-11	CARBON	1K	5%	1/4W	
R680	1-249-417-11	CARBON	1K	5%	1/4W	
R681	1-249-417-11	CARBON	1K	5%	1/4W	
R682	1-249-429-11	CARBON	10K	5%	1/4W	

< SWITCH >

S15	1-571-955-11	SWITCH, ROTARY (TUNING)
S601	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)
S602	1-554-303-21	SWITCH, TACTILE (SLEEP)
S603	1-554-303-21	SWITCH, TACTILE (1)
S604	1-554-303-21	SWITCH, TACTILE (2)
S605	1-554-303-21	SWITCH, TACTILE (3)
S606	1-554-303-21	SWITCH, TACTILE (4)
S607	1-554-303-21	SWITCH, TACTILE (5)
S608	1-554-303-21	SWITCH, TACTILE (6)
S610	1-554-303-21	SWITCH, TACTILE (7)
S611	1-554-303-21	SWITCH, TACTILE (8)
S612	1-554-303-21	SWITCH, TACTILE (-)
S613	1-554-303-21	SWITCH, TACTILE (SHIFT A)
S614	1-554-303-21	SWITCH, TACTILE (SHIFT B)
S615	1-554-303-21	SWITCH, TACTILE (SHIFT C)
S616	1-554-303-21	SWITCH, TACTILE (BAND)
S619	1-554-303-21	SWITCH, TACTILE (MEMORY)
S620	1-554-303-21	SWITCH, TACTILE (ST/MONO)
S621	1-554-303-21	SWITCH, TACTILE (CHARACTER)
S622	1-554-303-21	SWITCH, TACTILE (9)
S623	1-554-303-21	SWITCH, TACTILE (0)
S625	1-554-303-21	SWITCH, TACTILE (TUNING MODE)
S626	1-554-303-21	SWITCH, TACTILE (MEMORY SCAN)
S627	1-554-303-21	SWITCH, TACTILE (PTY)
S628	1-554-303-21	SWITCH, TACTILE (EOM)
S629	1-554-303-21	SWITCH, TACTILE (DISPLAY)
S630	1-554-303-21	SWITCH, TACTILE (REC)
S631	1-554-303-21	SWITCH, TACTILE (DAILY)
S632	1-554-303-21	SWITCH, TACTILE (ONCE)
S633	1-554-303-21	SWITCH, TACTILE (TIMER SET)
S634	1-554-303-21	SWITCH, TACTILE (CLOCK SET)
S635	1-554-303-21	SWITCH, TACTILE (+)
S636	1-554-303-21	SWITCH, TACTILE (NEXT)

Ref.No.	Part No.	Description			Remark
		< VIBRATOR >			
X601	1-760-096-21	VIBRATOR, CRYSTAL (4.19MHz)			
**********					
*	A-4369-471-A	POWER BOARD, COMPLETE (AEP:MADE IN JAPAN)			
*	A-4369-493-A	POWER BOARD, COMPLETE (G,IT:MADE IN JAPAN)			
*	A-4369-497-A	POWER BOARD, COMPLETE (AEP:MADE IN FRANCE)			
*	A-4369-504-A	POWER BOARD, COMPLETE (G,IT:MADE IN FRAMCE)			
		**********			
		< CAPACITOR >			
⚠C801	1-161-744-51	CERAMIC	0.01uF		400V
C802	1-101-004-00	CERAMIC	0.01uF		50V
C803	1-101-004-00	CERAMIC	0.01uF		50V
C804	1-126-105-11	ELECT	1000uF	20%	35V
C805	1-161-379-00	CERAMIC	0.01uF	20%	25V
C806	1-126-022-11	ELECT	47uF	20%	16V
C807	1-126-022-11	ELECT	47uF	20%	16V
C808	1-126-163-11	ELECT	4.7uF	20%	50V
C809	1-101-004-00	CERAMIC	0.01uF		50V
C810	1-124-918-11	ELECT	47uF	20%	63V
C811	1-124-918-11	ELECT	47uF	20%	63V
C812	1-124-910-11	ELECT	47uF	20%	50V
C813	1-126-059-11	ELECT	10uF	20%	50V
C814	1-161-494-00	CERAMIC	0.022uF		25V
C817	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
*CN701	1-569-625-11	SOCKET, CONNECTOR 3P (SYSTEM CONTROL 2)			
*CN702	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)			
CN801	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P			
*CN802	1-564-337-00	PIN, CONNECTOR 3P			
*CN803	1-568-830-11	SOCKET, CONNECTOR 11P			
CN804	1-564-321-00	PIN, CONNECTOR 2P (MADE IN JAPAN)			
CN804	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P (MADE IN FRANCE)			
		< DIODE >			
D701	8-719-987-63	DIODE	1N4148M		
D801	8-719-987-63	DIODE	1N4148M		
D802	8-719-200-82	DIODE	11ES2		
D803	8-719-200-82	DIODE	11ES2		
D804	8-719-200-82	DIODE	11ES2		
D805	8-719-200-82	DIODE	11ES2		
D806	8-719-934-22	HZS30-2L			

Ref.No.	Part No.	Description			Remark
D807	8-719-014-66	DIODE	UZP-5.6B		
		< FUSE >			
⚠F801	1-576-229-31	FUSE (H.B.C.) (T2.5A/250V) (AEP)			
⚠F801	1-532-286-00	FUSE (T2.5A/250V) (G, IT)			
		< FUSE HOLDER >			
FH801	1-533-293-11	FUSE HOLDER			
FH802	1-533-293-11	FUSE HOLDER			
		< IC >			
IC801	8-759-820-09	IC	LA5667		
		< TRANSISTOR >			
Q701	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q801	8-729-140-04	TRANSISTOR	2SB1116A-L		
Q802	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q803	8-729-140-04	TRANSISTOR	2SB1116A-L		
Q805	8-729-620-05	TRANSISTOR	2SC2603-EF		
		< RESISTOR >			
R701	1-249-425-11	CARBON	4.7K	5% 1/4W	
R702	1-249-429-11	CARBON	10K	5% 1/4W	
R703	1-249-393-11	CARBON	10	5% 1/4W	
⚠R801	1-215-887-00	METAL OXIDE	150	5% 2W	F
R802	1-249-429-11	CARBON	10K	5% 1/4W	
R803	1-249-425-11	CARBON	4.7K	5% 1/4W	
R804	1-249-425-11	CARBON	4.7K	5% 1/4W	
R805	1-249-417-11	CARBON	1K	5% 1/4W	
R806	1-249-437-11	CARBON	47K	5% 1/4W	
⚠R807	1-247-702-11	CARBON	150	5% 1/4W	F
R808	1-249-425-11	CARBON	4.7K	5% 1/4W	
R809	1-249-437-11	CARBON	47K	5% 1/4W	
R811	1-249-417-11	CARBON	1K	5% 1/4W	
R821	1-249-417-11	CARBON	1K	5% 1/4W	
R822	1-249-437-11	CARBON	47K	5% 1/4W	
		< RELAY >			
RY801	1-515-849-11	RELAY (POWER)			
**********					
*	A-4369-496-A	TUNER BOARD, COMPLETE (G, IT:MADE IN JAPAN)			
*	A-4369-500-A	TUNER BOARD, COMPLETE (AEP:MADE IN FRANCE)			
*	A-4369-507-A	TUNER BOARD, COMPLETE (G, IT:MADE IN FRANCE)			
*	A-4369-470-A	TUNER BOARD, COMPLETE (AEP:MADE IN JAPAN)			
		**********			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TUNER

Ref.No.	Part No.	Description			Remark
		< CAPACITOR >			
C1	1-161-379-00	CERAMIC	0.01uF	20%	25V
C2	1-124-477-11	ELECT	47uF	20%	25V
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-161-379-00	CERAMIC	0.01uF	20%	25V
C5	1-164-159-11	CERAMIC	0.1uF		50V
C6	1-161-379-00	CERAMIC	0.01uF	20%	25V
C7	1-124-120-11	ELECT	220uF	20%	25V
C8	1-161-379-00	CERAMIC	0.01uF	20%	25V
C9	1-161-379-00	CERAMIC	0.01uF	20%	25V
C10	1-161-379-00	CERAMIC	0.01uF	20%	25V
C11	1-124-907-11	ELECT	10uF	20%	50V
C12	1-124-902-00	ELECT	0.47uF	20%	50V
C13	1-124-903-11	ELECT	1uF	20%	50V
C14	1-124-903-11	ELECT	1uF	20%	50V
C15	1-124-907-11	ELECT	10uF	20%	50V
C16	1-124-907-11	ELECT	10uF	20%	50V
C17	1-124-907-11	ELECT	10uF	20%	50V
C18	1-124-907-11	ELECT	10uF	20%	50V
C19	1-136-159-00	FILM	0.033uF	5%	50V (G,IT)
C19	1-136-158-00	FILM	0.027uF	5%	50V (AEP)
C20	1-136-159-00	FILM	0.033uF	5%	50V (G,IT)
C20	1-136-158-00	FILM	0.027uF	5%	50V (AEP)
C21	1-161-046-00	CERAMIC	0.0039uF	10%	25V
C22	1-161-046-00	CERAMIC	0.0039uF	10%	25V
C23	1-124-903-11	ELECT	1uF	20%	50V
C24	1-162-294-31	CERAMIC	0.001uF	10%	50V
C25	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C26	1-124-477-11	ELECT	47uF	20%	25V
C27	1-126-962-11	ELECT	3.3uF	20%	50V
C28	1-161-494-00	CERAMIC	0.022uF		25V
C29	1-124-907-11	ELECT	10uF	20%	50V
C30	1-161-494-00	CERAMIC	0.022uF		25V
C31	1-101-005-00	CERAMIC	22000PF		50V
C32	1-162-198-31	CERAMIC	8.2PF	10%	50V (G,IT)
C32	1-162-196-31	CERAMIC	5.6PF	10%	50V (AEP)
C33	1-161-379-00	CERAMIC	0.01uF	20%	25V
C34	1-164-159-11	CERAMIC	0.1uF		50V (AEP)
C37	1-161-374-11	CERAMIC	0.0015uF	20%	50V (AEP)
C38	1-102-120-00	CERAMIC	0.0018uF	10%	50V (AEP)
C39	1-101-005-00	CERAMIC	22000PF		50V (AEP)
C45	1-161-379-00	CERAMIC	0.01uF	20%	25V
C46	1-162-294-31	CERAMIC	0.001uF	10%	50V
C47	1-161-494-00	CERAMIC	0.022uF		25V
C51	1-102-961-00	CERAMIC	27PF	5%	50V
C52	1-102-961-00	CERAMIC	27PF	5%	50V
C53	1-124-477-11	ELECT	47uF	20%	25V
C54	1-161-379-00	CERAMIC	0.01uF	20%	25V
C55	1-161-379-00	CERAMIC	0.01uF	20%	25V
C56	1-161-379-00	CERAMIC	0.01uF	20%	25V
C57	1-161-379-00	CERAMIC	0.01uF	20%	25V
C58	1-161-379-00	CERAMIC	0.01uF	20%	25V
C61	1-124-925-11	ELECT	2.2uF	20%	100V
C62	1-124-463-00	ELECT	0.1uF	20%	50V
C63	1-161-379-00	CERAMIC	0.01uF	20%	25V
C64	1-161-379-00	CERAMIC	0.01uF	20%	25V
C65	1-124-477-11	ELECT	47uF	20%	25V
C67	1-161-379-00	CERAMIC	0.01uF	20%	25V
C71	1-136-173-00	FILM	0.47uF	5%	50V (AEP)
C72	1-161-494-00	CERAMIC	0.022uF		25V (AEP)
C73	1-124-463-00	ELECT	0.1uF	20%	50V (AEP)
C81	1-162-291-31	CERAMIC	560PF	10%	50V
C82	1-124-907-11	ELECT	10uF	20%	50V
C83	1-161-379-00	CERAMIC	0.01uF	20%	25V
C84	1-124-925-11	ELECT	2.2uF	20%	100V
C85	1-162-288-31	CERAMIC	330PF	10%	50V
C86	1-161-379-00	CERAMIC	0.01uF	20%	25V
C87	1-162-291-31	CERAMIC	560PF	10%	50V
C88	1-161-379-00	CERAMIC	0.01uF	20%	25V
C89	1-101-880-00	CERAMIC	47PF	5%	50V
C90	1-102-527-11	CERAMIC	82PF	5%	50V
C91	1-161-379-00	CERAMIC	0.01uF	20%	25V
C92	1-124-907-11	ELECT	10uF	20%	50V
C93	1-124-907-11	ELECT	10uF	20%	50V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC (AEP)			
CF2	1-567-389-11	FILTER, CERAMIC (AEP)			
CF2	1-760-393-11	FILTER, CERAMIC (G,IT)			
CF3	1-760-393-11	FILTER, CERAMIC (G,IT)			
CF4	1-527-981-00	FILTER, CERAMIC			
CF5	1-577-075-11	OSCILLATOR, CERAMIC			
CF6	1-760-220-21	FILTER, CERAMIC			
		< CONNECTOR >			
*CN1	1-568-832-11	SOCKET, CONNECTOR 13P			
*CN2	1-564-337-00	PIN, CONNECTOR 3P			
*CN3	1-564-337-61	PIN, CONNECTOR 3P			
		< DIODE >			
D1	8-719-987-63	DIODE	1N4148M		
D4	8-719-015-04	DIODE	UZP-8.2BC		
D5	8-719-001-18	DIODE	UZL-9M3		
		< FRONT END >			
FE1	1-693-253-11	FRONT END (4 GANG) (FM) (G,IT)			

Ref.No.	Part No.	Description	Remark
FE1	1-693-090-41	FRONT END (FM) (2 GANG) (AEP)	
FE2	1-239-260-11	ENCAPSULATED COMPONENT (AM) (G,IT)	
FE2	1-239-876-11	ENCAPSULATED COMPONENT (MW) (AEP)	
FE3	1-236-463-11	ENCAPSULATED COMPONENT (LW) (AEP)	
		< IC >	
IC1	8-759-176-03	IC LA1835	
IC51	8-759-175-87	IC LC7218-ST	
IC81	8-759-145-58	IC UPC4558C	
IC82	8-759-169-99	IC SAA6579	
IC83	8-759-062-26	IC LC7073	
		< IFT >	
IFT1	1-409-636-11	TRANSFORMER,IF (CERAMIC FILTER)	
		< COIL >	
L1	1-410-688-31	INDUCTOR 1.5mH (G,IT)	
L1	1-407-500-00	INDUCTOR 4.7mH (AEP)	
L2	1-410-525-11	INDUCTOR 220uH (AEP)	
L81	1-410-521-11	INDUCTOR 100uH	
		< LOW PASS FILTER >	
LPF1	1-239-597-11	FILTER, LOW PASS	
LPF2	1-239-597-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-230-XX	TRANSISTOR 2SC2669-OY	
Q2	8-729-230-XX	TRANSISTOR 2SC2669-OY (G,IT)	
Q3	8-729-119-76	TRANSISTOR 2SA1175-HFE (AEP)	
Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE (AEP)	
Q5	8-729-900-80	TRANSISTOR DTC114ES (AEP)	
Q6	8-729-900-80	TRANSISTOR DTC114ES (AEP)	
Q7	8-729-900-80	TRANSISTOR DTC114ES (AEP)	
Q8	8-729-900-80	TRANSISTOR DTC114ES (AEP)	
Q55	8-729-900-61	TRANSISTOR DTA114ES	
Q61	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q62	8-729-201-84	TRANSISTOR 2SC3112-B	
Q71	8-729-202-67	TRANSISTOR 2SK246-GR3 (AEP)	
Q72	8-729-201-84	TRANSISTOR 2SC3112-B (AEP)	
		< RESISTOR >	
R1	1-249-411-11	CARBON 330 5% 1/4W	
R2	1-249-411-11	CARBON 330 5% 1/4W	
R3	1-249-409-11	CARBON 220 5% 1/4W	
R4	1-249-410-11	CARBON 270 5% 1/4W	
R5	1-247-891-00	CARBON 330K 5% 1/4W	
R6	1-249-411-11	CARBON 330 5% 1/4W	
R7	1-247-891-00	CARBON 330K 5% 1/4W (G,IT)	
R8	1-249-411-11	CARBON 330 5% 1/4W (G,IT)	

Ref.No.	Part No.	Description	Remark
⚠R9	1-249-405-11	CARBON 100 5% 1/4W F	
R10	1-249-437-11	CARBON 47K 5% 1/4W	
R12	1-249-429-11	CARBON 10K 5% 1/4W	
R13	1-249-442-11	CARBON 510 5% 1/4W	
⚠R14	1-247-738-11	CARBON 82 5% 1/2W F	
R16	1-249-429-11	CARBON 10K 5% 1/4W	
R17	1-247-842-11	CARBON 3K 5% 1/4W	
R18	1-249-429-11	CARBON 10K 5% 1/4W	
R19	1-249-441-11	CARBON 100K 5% 1/4W	
R21	1-249-441-11	CARBON 100K 5% 1/4W	
R22	1-249-437-11	CARBON 47K 5% 1/4W	
R23	1-249-399-11	CARBON 33 5% 1/4W	
R24	1-249-425-11	CARBON 4.7K 5% 1/4W (AEP)	
R25	1-249-429-11	CARBON 10K 5% 1/4W (AEP)	
R26	1-249-429-11	CARBON 10K 5% 1/4W (AEP)	
R27	1-249-429-11	CARBON 10K 5% 1/4W (AEP)	
R30	1-249-429-11	CARBON 10K 5% 1/4W (AEP)	
R31	1-249-429-11	CARBON 10K 5% 1/4W (AEP)	
R32	1-249-433-11	CARBON 22K 5% 1/4W (AEP)	
R33	1-247-903-00	CARBON 1M 5% 1/4W (AEP)	
R34	1-249-437-11	CARBON 47K 5% 1/4W (AEP)	
R35	1-249-423-11	CARBON 3.3K 5% 1/4W	
R36	1-249-423-11	CARBON 3.3K 5% 1/4W	
R39	1-249-429-11	CARBON 10K 5% 1/4W	
R41	1-249-410-11	CARBON 270 5% 1/4W	
R45	1-249-426-11	CARBON 5.6K 5% 1/4W	
R46	1-249-426-11	CARBON 5.6K 5% 1/4W	
R47	1-247-807-31	CARBON 100 5% 1/4W	
R49	1-249-423-11	CARBON 3.3K 5% 1/4W	
⚠R50	1-249-401-11	CARBON 47 5% 1/4W F	
R51	1-249-417-11	CARBON 1K 5% 1/4W	
R52	1-249-417-11	CARBON 1K 5% 1/4W	
R53	1-249-417-11	CARBON 1K 5% 1/4W	
R54	1-249-417-11	CARBON 1K 5% 1/4W	
R56	1-249-425-11	CARBON 4.7K 5% 1/4W	
R57	1-249-417-11	CARBON 1K 5% 1/4W	
R58	1-249-417-11	CARBON 1K 5% 1/4W	
⚠R60	1-249-405-11	CARBON 100 5% 1/4W F	
R61	1-249-423-11	CARBON 3.3K 5% 1/4W	
R62	1-249-425-11	CARBON 4.7K 5% 1/4W	
R63	1-249-414-11	CARBON 560 5% 1/4W	
R64	1-249-417-11	CARBON 1K 5% 1/4W	
R65	1-249-410-11	CARBON 270 5% 1/4W	
R66	1-249-421-11	CARBON 2.2K 5% 1/4W	
R67	1-249-425-11	CARBON 4.7K 5% 1/4W	
R68	1-249-425-11	CARBON 4.7K 5% 1/4W	
R69	1-247-807-31	CARBON 100 5% 1/4W	
R71	1-249-423-11	CARBON 3.3K 5% 1/4W (AEP)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TUNER

Ref.No.	Part No.	Description			Remark
R72	1-249-433-11	CARBON	22K	5%	1/4W (AEP)
R73	1-249-414-11	CARBON	560	5%	1/4W (AEP)
R74	1-249-417-11	CARBON	1K	5%	1/4W (AEP)
R75	1-249-410-11	CARBON	270	5%	1/4W (AEP)
R76	1-249-421-11	CARBON	2.2K	5%	1/4W (AEP)
R77	1-249-425-11	CARBON	4.7K	5%	1/4W (AEP)
R78	1-247-807-31	CARBON	100	5%	1/4W (AEP)
R81	1-249-441-11	CARBON	100K	5%	1/4W
R82	1-249-441-11	CARBON	100K	5%	1/4W
R83	1-249-433-11	CARBON	22K	5%	1/4W
R84	1-249-426-11	CARBON	5.6K	5%	1/4W
R85	1-249-421-11	CARBON	2.2K	5%	1/4W
R86	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K			
RV2	1-238-600-11	RES, ADJ, CARBON 10K			
		< TERMINAL BOARD >			
*TM1	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL)			
		< VIBRATOR >			
X1	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)			
X2	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			
XT51	1-577-126-21	VIBRATOR, CRYSTAL (7.2MHz)			
**********					
		MISCELLANEOUS			
		**********			
4	1-751-688-11	WIRE (FLAT TYPE) (13 CORE)			
5	1-575-666-11	WIRE, FLAT TYPE (11 CORE)			
⚠15	1-575-651-11	CORD, POWER (MADE IN JAPAN)			
⚠15	1-575-651-21	CORD, POWER (MADE IN FRANCE)			
⚠CNJ801	1-526-794-11	OUTLET, AC (AC OUTLET)			
⚠CNJ802	1-526-794-11	OUTLET, AC (AC OUTLET)			
⚠T801	1-426-809-11	TRANSFORMER, POWER			
**********					
		ACCESSORIES & PACKING MATERIALS			
		**********			
	4-920-940-01	SHEET (A), PROTECTION			
*	4-922-998-01	CUSHION (MADE IN JAPAN)			
*	4-927-355-01	CUSHION (MADE IN FRANCE)			
*	4-929-563-01	CUSHION (AEP:MADE IN JAPAN)			
*	4-954-733-42	PALLET (A-5), SHEET (MADE IN JAPAN)			
*	4-955-663-51	INDIVIDUAL CARTON (MADE IN FRANCE)			
*	4-966-381-01	INDIVIDUAL CARTON (MADE IN JAPAN)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-959-432-31

Sony Corporation
Audio Group

English
94D187546-1
Printed in Germany

Published by Audio Sector Quality Assurance Dept.

ST-A790

SONY

AEP Model

SERVICE MANUAL

SUPPLEMENT-1

File this supplement with the service manual.

Subject : 1. CORRECTION
2. PARTS SUPPLY CLASSIFICATION CHANGED
3. PARTS & BOARD CHANGED

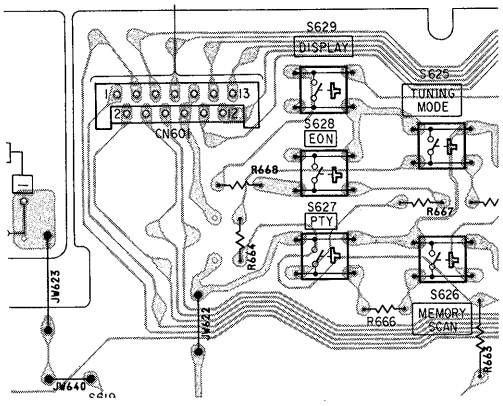
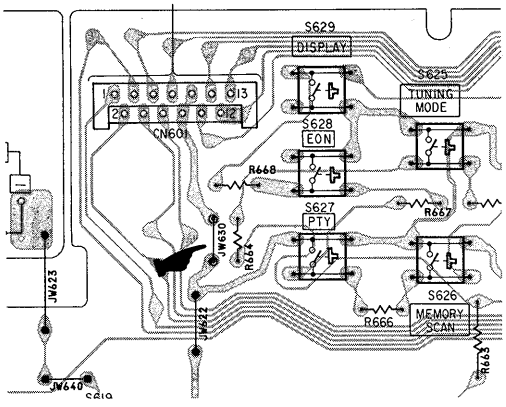
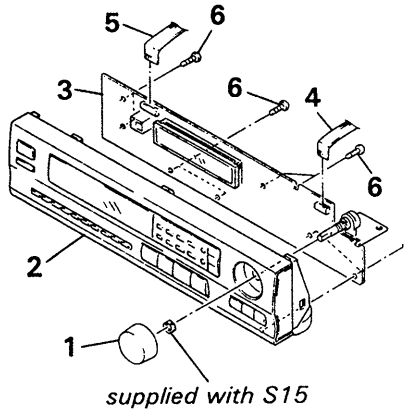
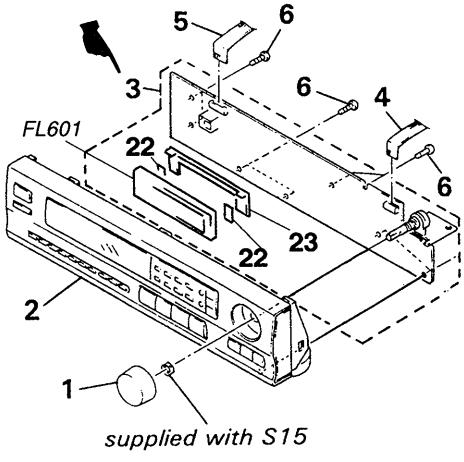
(ECN-TA401704)

1. CORRECTION

• Correct your service manual as shown below.

: indicates corrected portion.

• Abbreviation
G : German model
IT : Italian model

Page	INCORRECT	CORRECT
17	**[PANEL BOARD]** Location : B–C, 2–4 	**[PANEL BOARD]** Location : B–C, 2–4 
23	*** EXPLODED VIEWS *** 	*** EXPLODED VIEWS *** 

• Abbreviation
G : German model
IT : Italian model

Page	INCORRECT				CORRECT			
24	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			*** EXPLODED VIEWS ***				*** EXPLODED VIEWS ***	
	2	X-4944-627-2	PANEL ASSY (790//F), FRONT (MADE IN FRANCE)		2	X-4944-627-3	PANEL ASSY (790//F), FRONT (MADE IN FRANCE)	
	* 17	4-964-330-01	PANEL (2), BACK (AEP: MADE IN JAPAN)		* 17	4-964-330-01	PANEL (2), BACK (AEP: MADE IN FRANCE)	
			————————		* 22	4-921-941-01	CUSHION (FL)	
			————————		* 23	4-923-103-01	HOLDER, FL TUBE	
			————————		FL601	1-517-265-21	INDICATOR TUBE, FLUORESCENT	
28			*** ELECTRICAL PARTS LIST ***				*** ELECTRICAL PARTS LIST ***	
			*** TUNER BOARD ***				*** TUNER BOARD ***	
			————————		CF1	1-567-389-11	FILTER, CERAMIC (G, IT)	
30			*** MISCELLANEOUS ***				*** MISCELLANEOUS ***	
			————————		FL601	1-517-265-21	INDICATOR TUBE, FLUORESCENT	
			*** ACCESSORIES & PACKING MATERIALS ***				*** ACCESSORIES & PACKING MATERIALS ***	
	*	4-922-998-01	CUSHION (MADE IN JAPAN)		*	4-922-998-01	CUSHION (G, IT: MADE IN JAPAN)	
	*	4-954-733-42	PALLET (A-5), SHEET (MADE IN JAPAN)				Not supplied	

2. PARTS SUPPLY CLASSIFICATION CHANGED

Revise your service manual as shown below due to parts supply classification has been changed.

Page	CURRENT				REVISED			
27	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			*** ELECTRICAL PARTS LIST ***				*** ELECTRICAL PARTS LIST ***	
			*** POWER BOARD ***				*** POWER BOARD ***	
	⚠F801	1-532-286-00	FUSE (T2.5A/250V) (G, IT)		⚠F801	1-532-464-51	FUSE TIME-LAG (2.5A/250V) (G, IT)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

3. PARTS & BOARDS CHANGED

Page	FORMER						NEW					
25	Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
			*** ELECTRICAL PARTS LIST ***						*** ELECTRICAL PARTS LIST ***			
			*** PANEL BOARD ***						*** PANEL BOARD ***			
	R618	1-249-417-11	CARBON	1K	5%	1/4W			———			
27			*** POWER BOARD ***						*** POWER BOARD ***			
	⚠C801	1-161-744-51	CERAMIC	0.01uF		400V	⚠C801	1-113-916-11	CERAMIC	0.01uF	20%	250V
			*** TUNER BOARD ***						*** TUNER BOARD ***			
	C19	1-136-159-00	FILM	0.033uF	5%	50V (G, IT)	C19	1-136-160-00	FILM	0.039uF	5%	50V (G, IT)
	C19	1-136-158-00	FILM	0.027uF	5%	50V (AEP)	C19	1-136-160-00	FILM	0.039uF	5%	50V (AEP)
	C20	1-136-159-00	FILM	0.033uF	5%	50V (G, IT)	C20	1-136-160-00	FILM	0.039uF	5%	50V (G, IT)
	C20	1-136-158-00	FILM	0.027uF	5%	50V (AEP)	C20	1-136-160-00	FILM	0.039uF	5%	50V (AEP)
			———				C97	1-161-490-00	CERAMIC	0.022uF		25V (G, IT)
	CF1	1-567-389-11	FILTER, CERAMIC (AEP)				CF1	1-579-374-71	FILTER, CERAMIC			
	CF2	1-567-389-11	FILTER, CERAMIC (AEP)				CF2	1-760-393-11	FILTER, CERAMIC (AEP)			
	CF3	1-760-393-11	FILTER, CERAMIC (G, IT)				CF3	1-760-393-11	FILTER, CERAMIC (AEP)			
	FE1	1-693-090-41	FRONT END (FM) (2 GAND) (AEP)				FE1	1-693-253-11	FRONT END (4 GAND) (AEP)			
			———				L5	1-410-509-11	INDUCTOR	10uH		
	Q2	8-729-230-XX	TRANSISTOR 2SC2669-0Y (G, IT)				Q2	8-729-230-99	TRANSISTOR 2SC2669-0Y			
	Q3	8-729-119-76	TRANSISTOR 2SA1175-HFE (AEP)				Q3	8-729-110-69	TRANSISTOR 2SA1409-K (AEP)			
	Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE (AEP)				Q4	8-729-110-69	TRANSISTOR 2SA1409-K (AEP)			
	Q55	8-729-900-61	TRANSISTOR DTA114ES				Q55	8-729-422-57	TRANSISTOR VN4111			
	R7	1-247-891-00	CARBON	330K	5%	1/4W (G, IT)	R7	1-247-891-00	CARBON	330K	5%	1/4W
	R8	1-249-411-11	CARBON	330	5%	1/4W (G, IT)	R8	1-249-411-11	CARBON	330	5%	1/4W
	R27	1-249-429-11	CARBON	10K	5%	1/4W (AEP)			———			
			———				R37	1-249-433-11	CARBON	22K	5%	1/4W (AEP)

• Abbreviation
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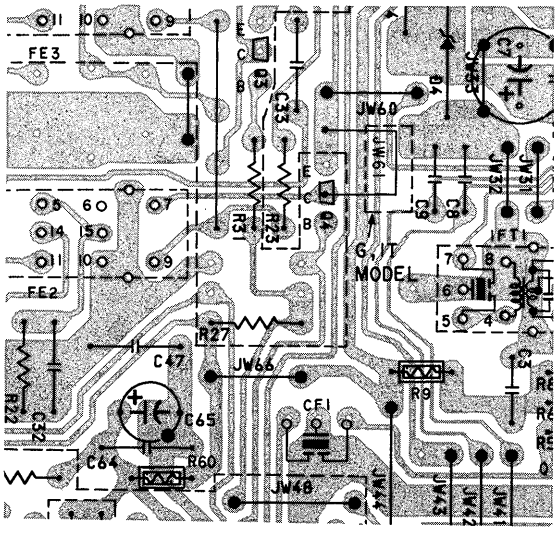
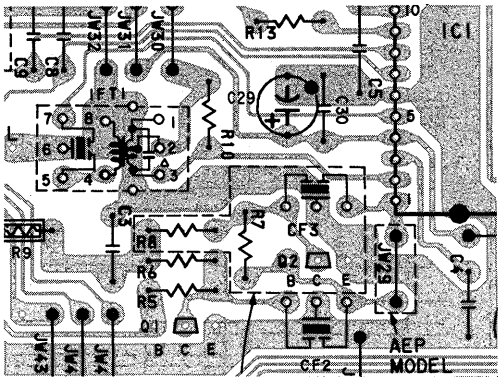
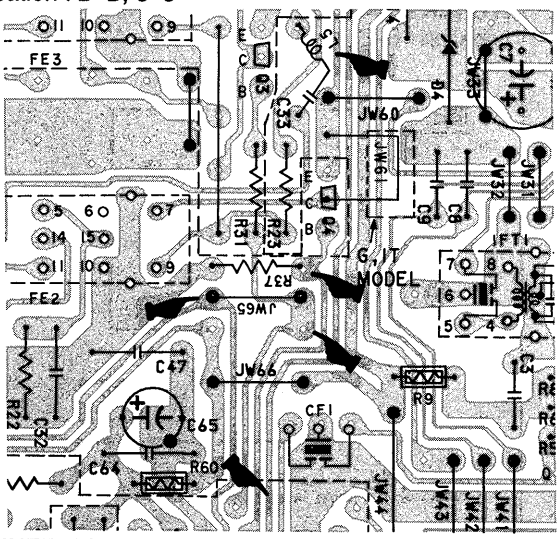
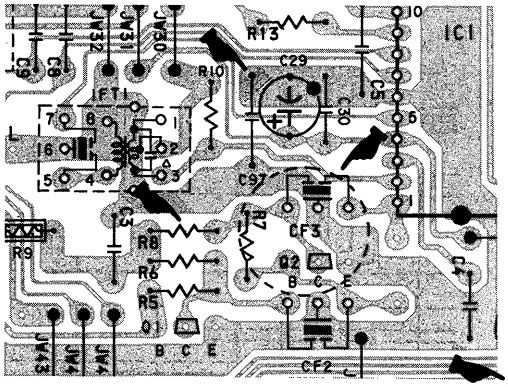
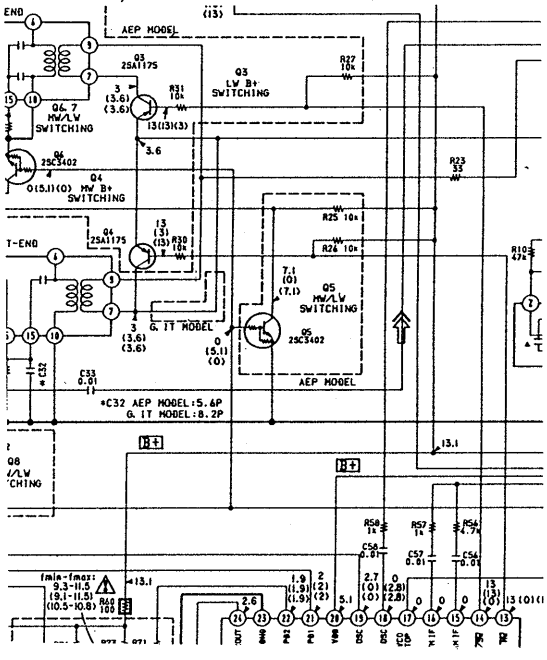
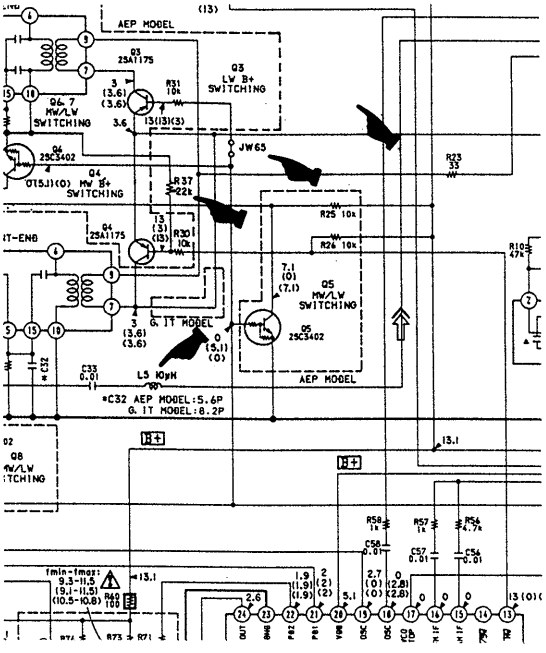
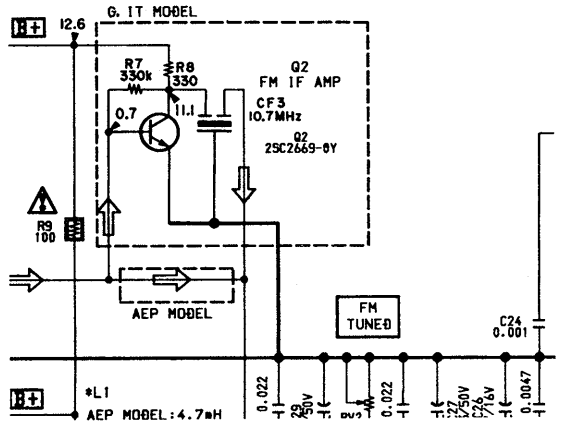
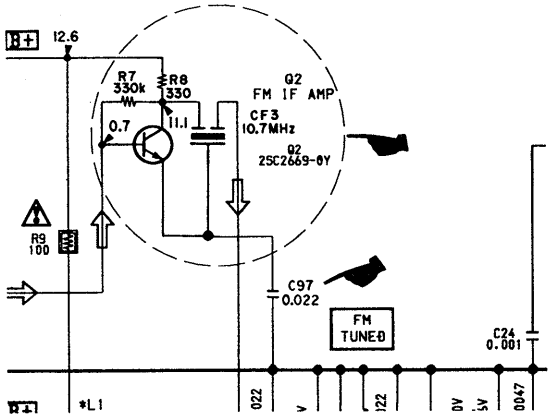
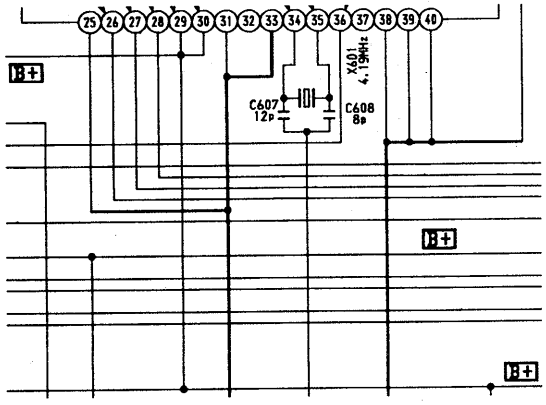
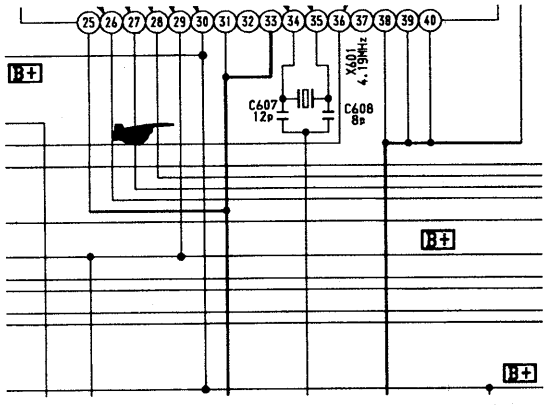
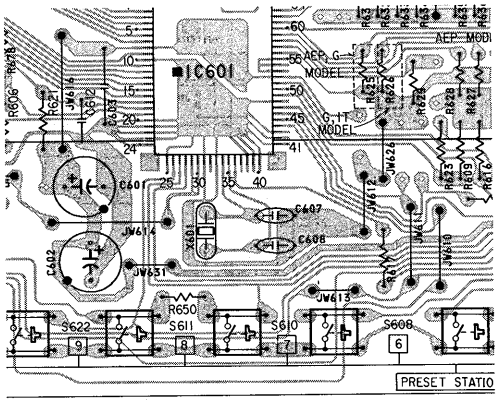
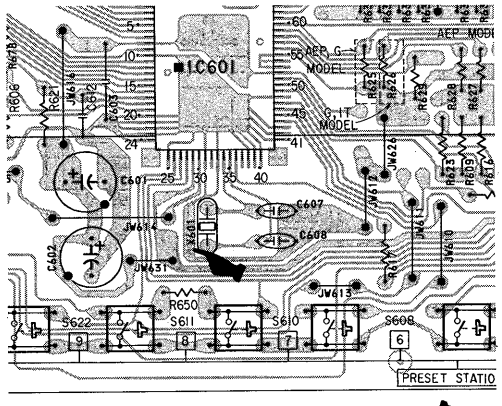
IT : Italian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

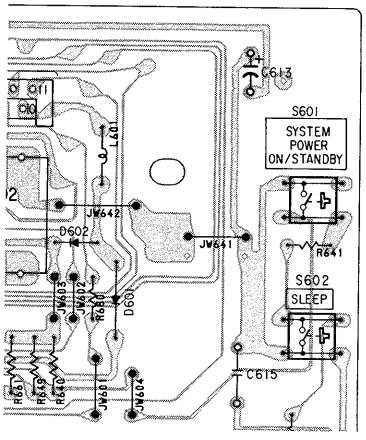
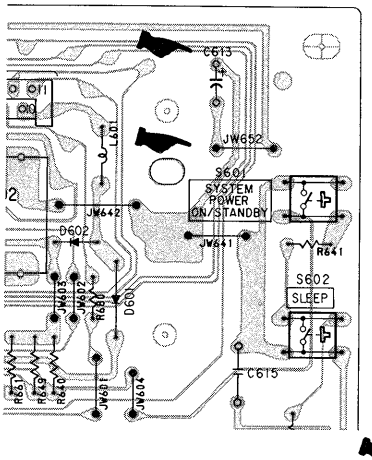
: indicates changed portion.

Page	FORMER	NEW
9	**[TUNER BOARD]** Location : B–D, 3–5  **[TUNER BOARD]** Location : C, 5–6  1-651-766-11	**[TUNER BOARD]** Location : B–D, 3–5  **[TUNER BOARD]** Location : C, 5–6  13 1-651-766-(13)
11	**[TUNER BOARD]** Location : E–J, 5–8 	**[TUNER BOARD]** Location : E–J, 5–8 

: indicates changed portion.

Page	FORMER	NEW
12	**[TUNER BOARD]** Location : B–D, 8–10 	**[TUNER BOARD]** Location : B–D, 8–10 
15	**[PANEL BOARD]** Location : H–J, 7–10 	**[PANEL BOARD]** Location : H–J, 7–10 
18	**[PANEL BOARD]** Location : C–D, 9–11  1-651-399-(1/2) 11	**[PANEL BOARD]** Location : C–D, 9–11  1-651-399- 14 (14)

: indicates changed portion.

Page	FORMER	NEW
18	**[PANEL BOARD]** Location : B–C, 13–14  1-651-399-(1/2) 11	**[PANEL BOARD]** Location : B–C, 13–14  1-651-399- 14 (14)

9-959-432-82

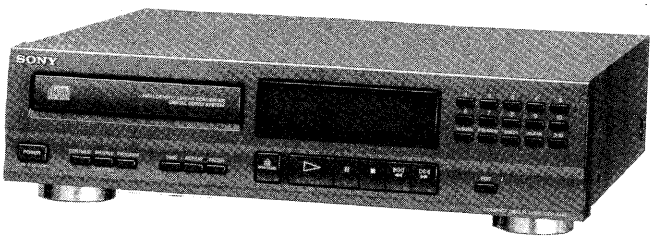
Sony Corporation
Home A&V Products Company

96L097546-1
Printed in Germany
Published by Service and Safety Engineering Dept. (Shibaura)

CDP-M46

SERVICE MANUAL

AEP Model
E Model



CDP-M46 is the Compact Disc Player section in LBT-A590/A790.

Model Name Using Similer Mechanism	CDP-M201/M301
CD Mechanism Type	CDM14-5BD10
Base Unit Type	BU-5BD10B
Optical Pick-up Type	KSS-240A

SPECIFICATIONS

Compact disc player

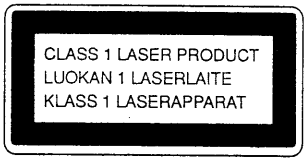
Laser	Semiconductor laser
Wavelength	780 - 790 nm
Frequency response	2 Hz to 20 kHz (± 0.5 dB)
Signal-to-noise ratio	More than 100 dB
Dynamic range	More than 97 dB
Harmonic distortion	Less than 0.004 % (1 kHz)
Channel separation	More than 95 dB (1 kHz)
Output	LINE OUT (phono jacks) Output level 2 V (at 50 kohms) Load impedance over 10 kohms
Power requirements	AEP model : 220 — 230V AC, 50/60Hz E, Saudi Arabia model : 110 — 120, 220 —240V AC, adjustable 50/60Hz
Power consumption	10 W
Weight	Approx. 2.8 kg (6 lbs 3 oz)
Dimensions	Approx. 355 x 95 x 320 mm (14 x $3\,^{3}/_{4}$ x $12\,^{5}/_{8}$ inches) (w/h/d, including projections)
Supplied accessory	Audio connecting cord (1)

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER

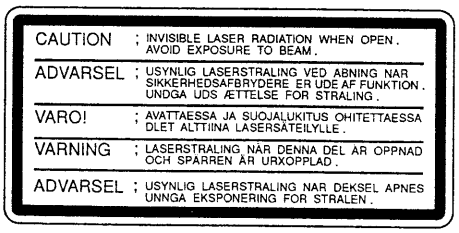
SONY®

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



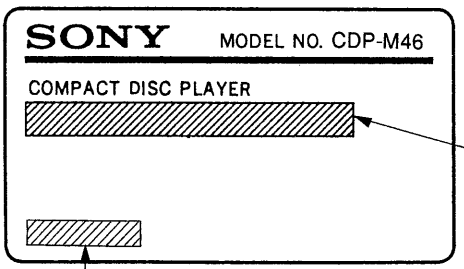
Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside of the unit.



MODEL IDENTIFICATION

— Specification Label —



AEP model : AC220 — 230V~50/60Hz, 10W
E, Saudi Arabia model : AC110 — 120, 220 — 240V~50/60Hz, 10W

MADE IN JAPAN
MADE IN FRANCE

TABLE OF CONTENTS

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Fiexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repain parts.
The flexible board is easily damaged and should be handled with care.

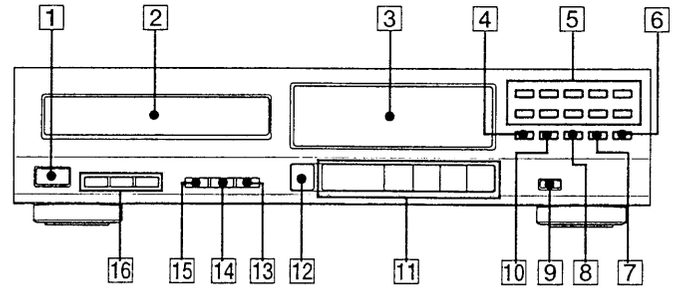
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

SECTION 2
GENERAL

This section is extracted from instruction manual.

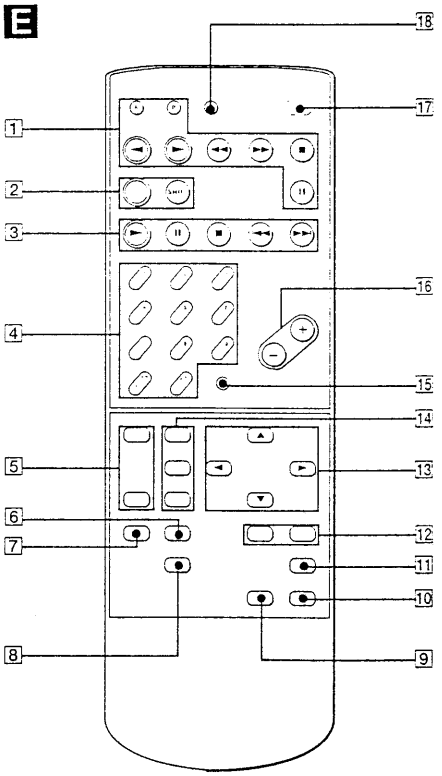
D



CD Player **D**

1 POWER switch (18)
2 Disc tray
3 Display window
4 MUSIC SCAN button (58)
5 Numeric buttons (58)
6 > 10 (over 10) button (58)
7 CLEAR button (66, 74)
8 CHECK button (66)
9 EDIT button (76, 78)
10 P. SEARCH button (84)
11 CD operation buttons
⏮ ◀◀ / ▶▶ ⏭ AMS*,
■ stop, ❚❚ pause, ► play
12 ⏏ OPEN/CLOSE button (54)
13 FADER button (82)
14 REPEAT button (68)
15 TIME button (56)
16 Play mode buttons
CONTINUE, SHUFFLE, PROGRAM

* AMS is the abbreviation of Automatic Music Sensor.



Remote commander (RM-S521)

E

1 Cassette deck operation buttons
When the remote commander is not in cassette deck control mode, press the TAPE DECK A or B button and then operate these buttons.

2 Tuner operation buttons
When the remote commander is not in tuner control mode, press the TUNER button and then select the preset station with the SHIFT button and numeric button (1 - 0 (10)).

3 CD player operation buttons
When the remote commander is not in CD player control mode, press the ► button and then operate these buttons.

4 Numeric buttons
In tuner control mode: Used to select the preset station number (1 - 0 (10)).
In CD player control mode: Used to directly locate a selection (1 - 10 and >10). The >10 button is used to specify selection number 11 or above. (58)
In amplifier control mode: Used to select a sound pattern among the SELECT 5 settings (HALL, DANCE, MOVIE, WM and CAR) or your individual sound setting (1 - 5) stored in PERSONAL FILE.
Press 1-5 while pressing the SELECT 5 or PERSONAL FILE button.

5 VIDEO/MD and PHONO function selectors

6 SOURCE DIRECT button (88)

7 PROGRAM FUNCTION button (122)

8 DISPLAY button (94)
This button functions only in amplifier control mode.

9 ● REC button
Press to enter recording pause mode.

10 O REC MUTE button

11 DYNAMIC BASS button (20)

12 SURROUND MODE and LEVEL buttons (86)

13 CURSOR CONTROL buttons (88, 90, 96, 98)

14 SELECT 5 button (88)
PERSONAL FILE (1–5) button (98)
EQ button (90)

15 DISC SKIP button
Functions only for CDP-C433M.

16 VOLUME control buttons (20)

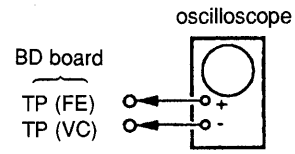
17 SYSTEM POWER button (18)

18 SLEEP button (114)

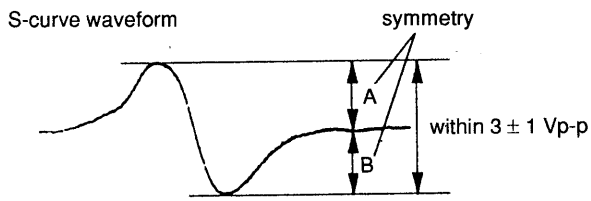
SECTION 3
ELECTRICAL BLOCK CHECKING

Note :
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal lever is low than specified value with the following checks.

S Curve Check



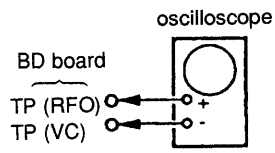
Procedure :
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.



6. After check, remove the lead wire connected in step 2.

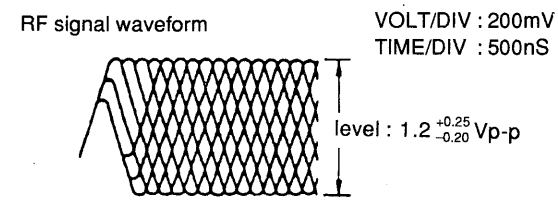
Note :
- Try to mesure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

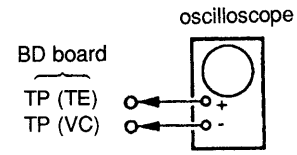


Procedure :
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

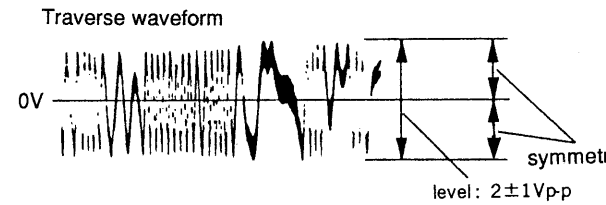
Note :
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.



E-F Balance Check



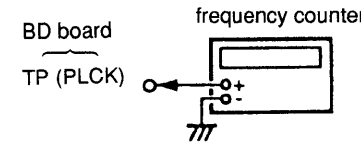
Procedure :
1. Connect test point TP (ADJ) on MAIN board to ground and TP(TEI) to TP (VC) with lead wire.
2. Connect oscilloscpe to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.



6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

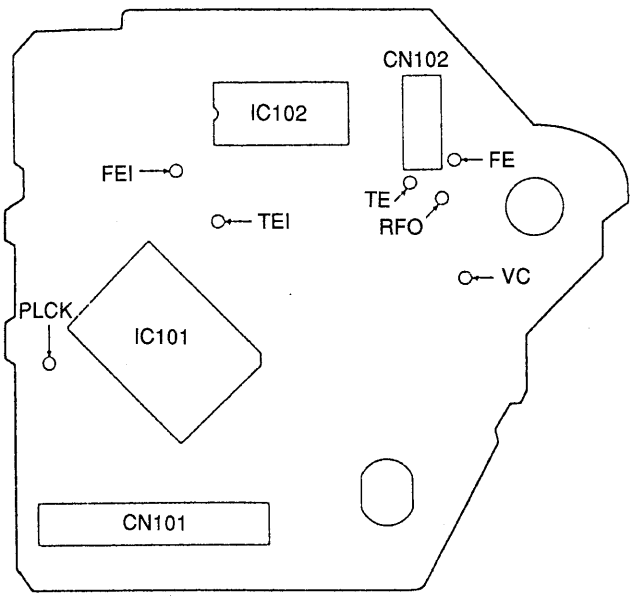
Procedure :
1. Connect frequency counter to test point (PLCK) with lead wire.



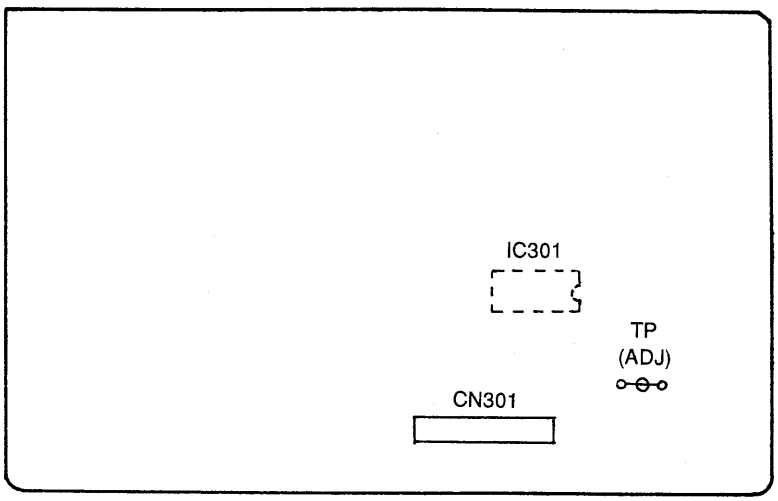
2. Turned Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[BD BOARD] — Component Side —

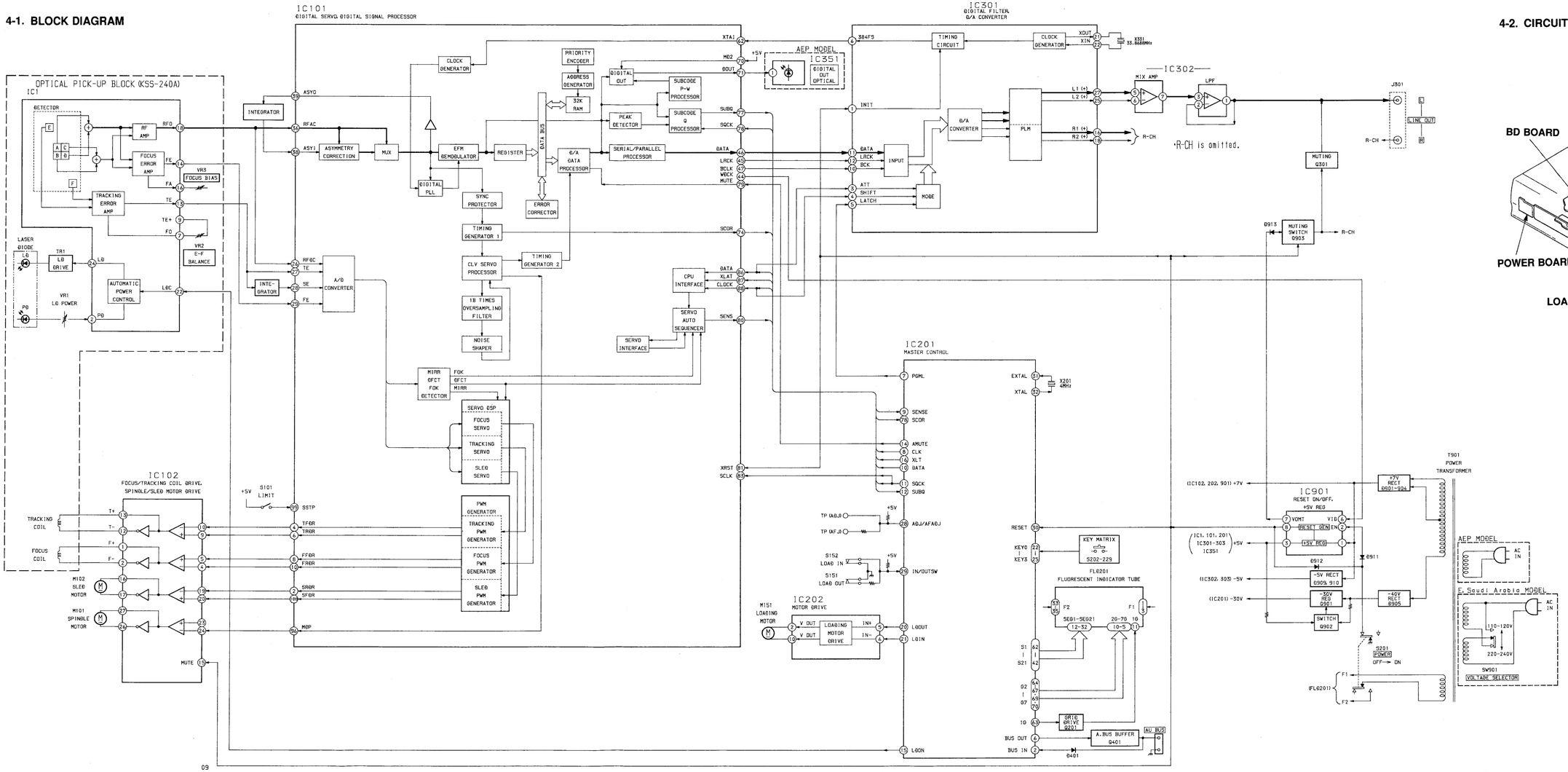


[MAIN BOARD] — Component Side —

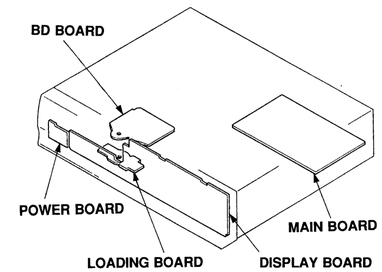


SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM



4-2. CIRCUIT BOARDS LOCATION

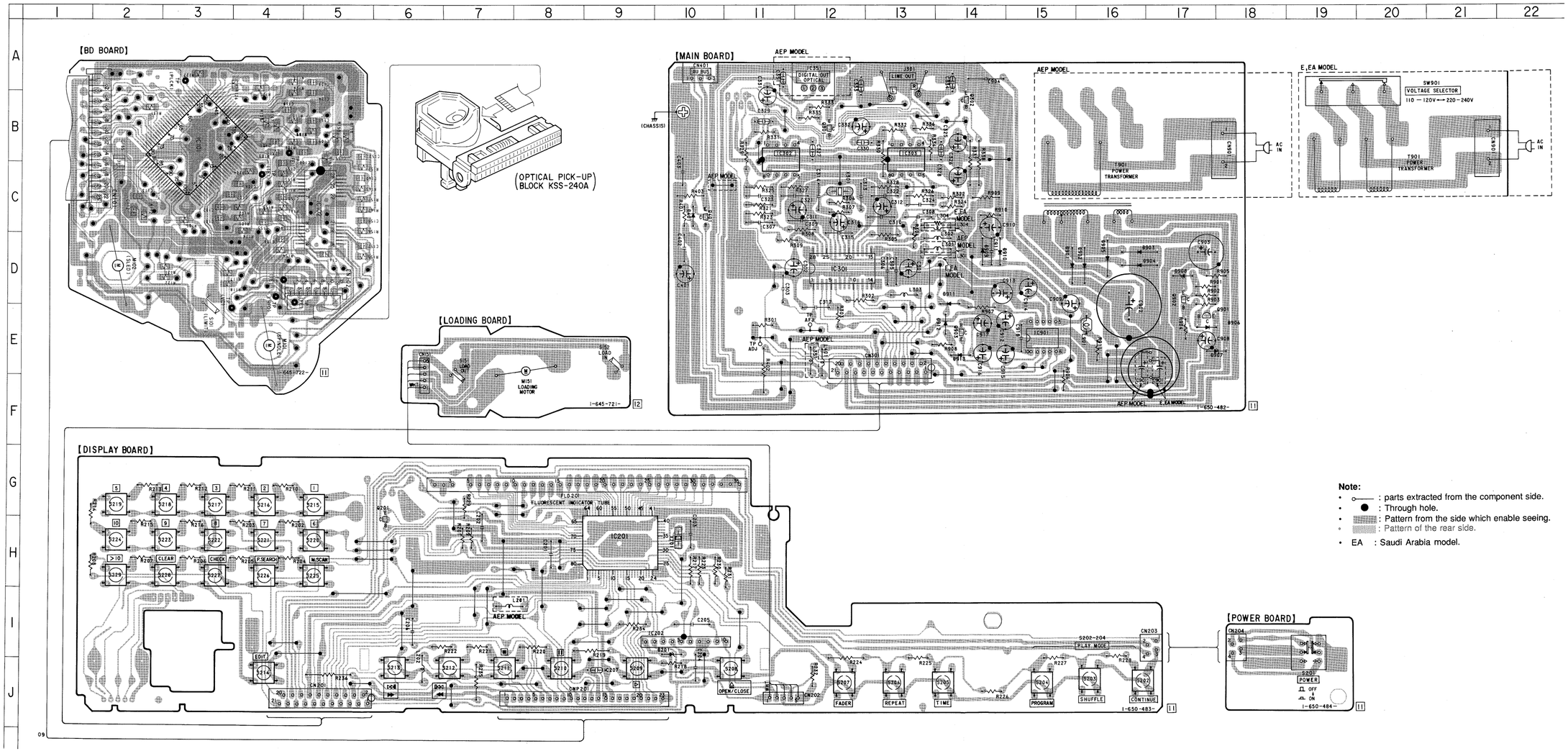


4-3. PRINTED WIRING BOARDS

• See page 18 for Semiconductor Lead Layouts.
• See page 9 for Circuit Boards Location.

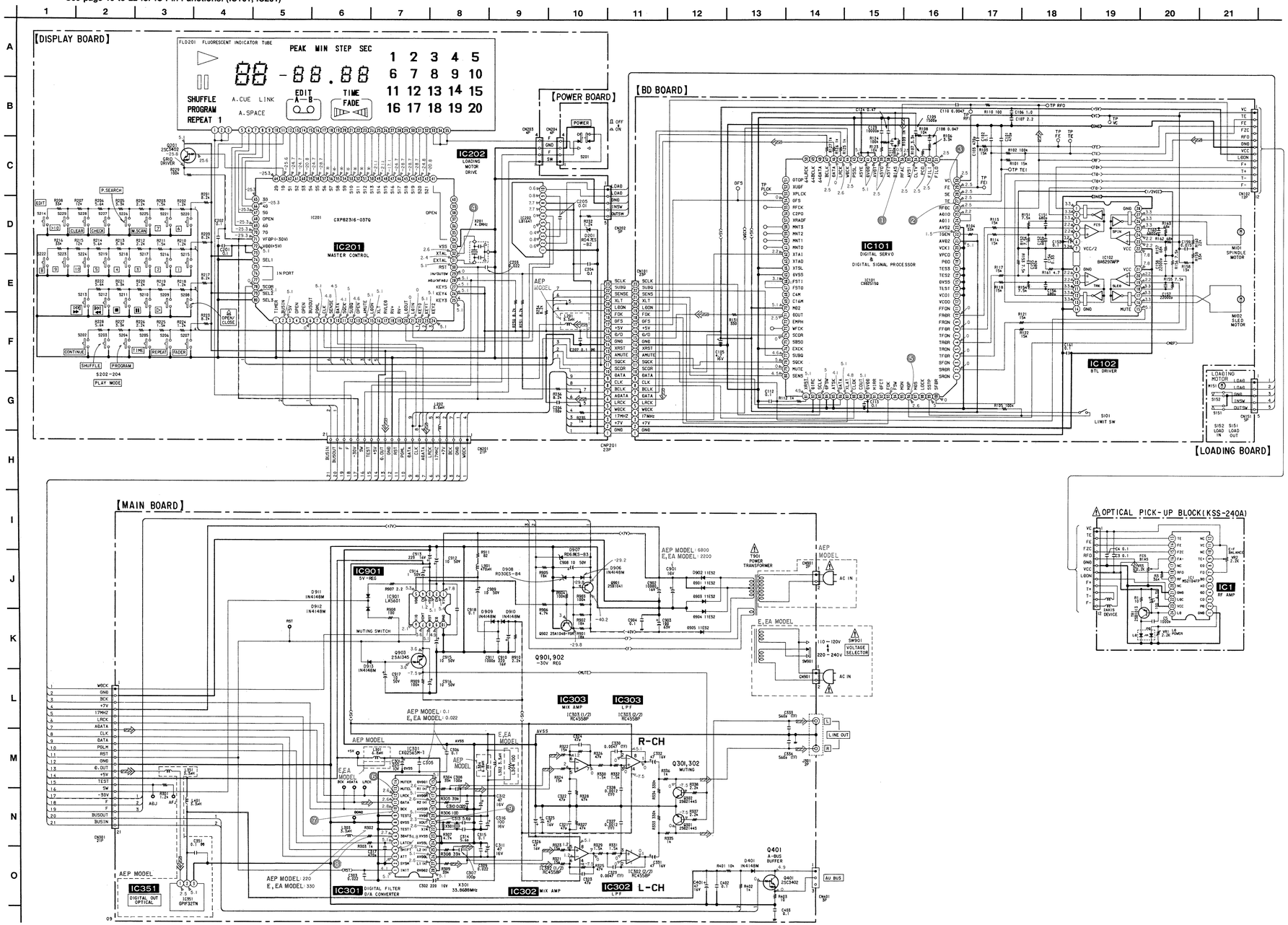
• Semiconductor Location

Ref. No.	Location
D201	I-10
D401	C-10
D901	D-15
D902	D-16
D903	D-16
D904	D-16
D905	D-16
D906	E-17
D907	E-18
D908	D-17
D909	D-14
D910	D-14
D911	E-14
D912	E-14
D913	E-14
IC201	H-9
IC202	I-10
IC301	D-12
IC302	B-11
IC303	B-13
IC351	K-12
IC901	E-15
Q201	H-6
Q301	B-12
Q302	B-14
Q401	C-10
Q901	E-17
Q902	D-17
Q903	E-14



4-4. SCHEMATIC DIAGRAM

- See page 17, 18 for IC Block Diagrams.
- See page 19 to 22 for IC Pin Functions. (IC101, IC201)



• Waveforms

①	1.5Vp-p IC101 ㊳ PLAY	⑥	5.2Vp-p 22.7μsec IC301 ⑰
②	2.5V APPROX 500mVp-p IC101 ㉗ PLAY	⑦	4.5Vp-p 470n sec IC301 ⑩
③	2.5V APPROX 100mVp-p IC101 ㉘ PLAY	⑧	2.8Vp-p 16.9MHz IC301 ⑥
④	5.2Vp-p 4MHz IC201 ㉛	⑨	3.3Vp-p 33.8688MHz IC301 ㉑
⑤	2.6Vp-p 7.5μsec IC101 ㊱ PLAY		

Note:

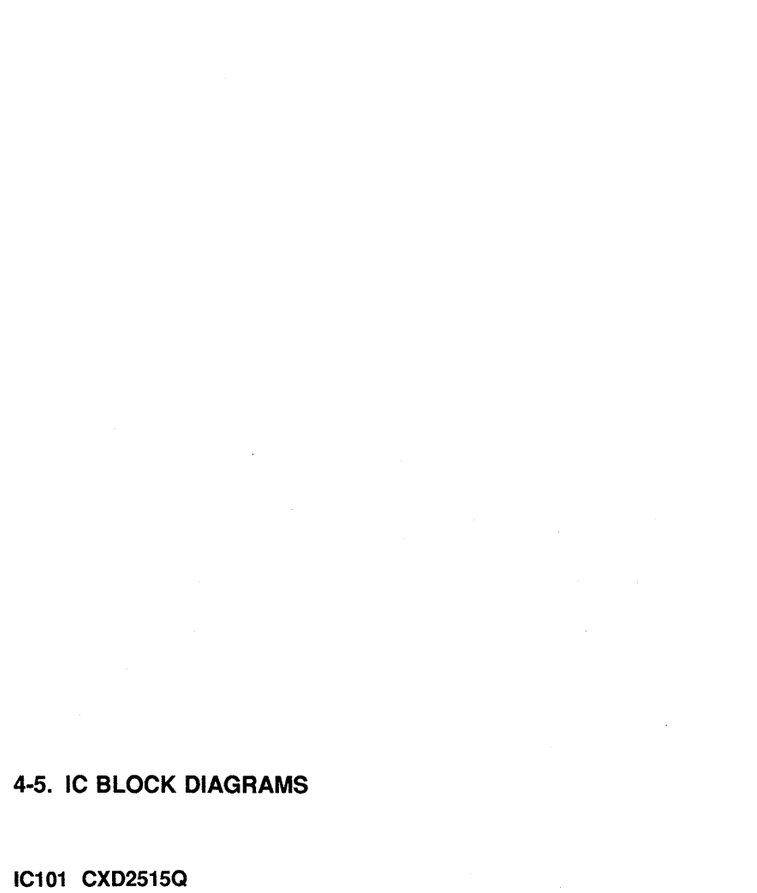
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

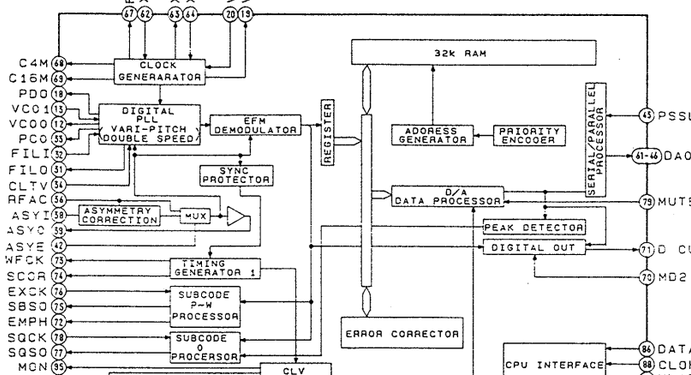
- ▬▬ : B+ Line
- ▪▪▪▪ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ※ : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇒ : CD
  ⇒ : digital out
- EA : Saudi Arabia model.

4-5. IC BLOCK DIAGRAMS

IC101 CXD2515Q

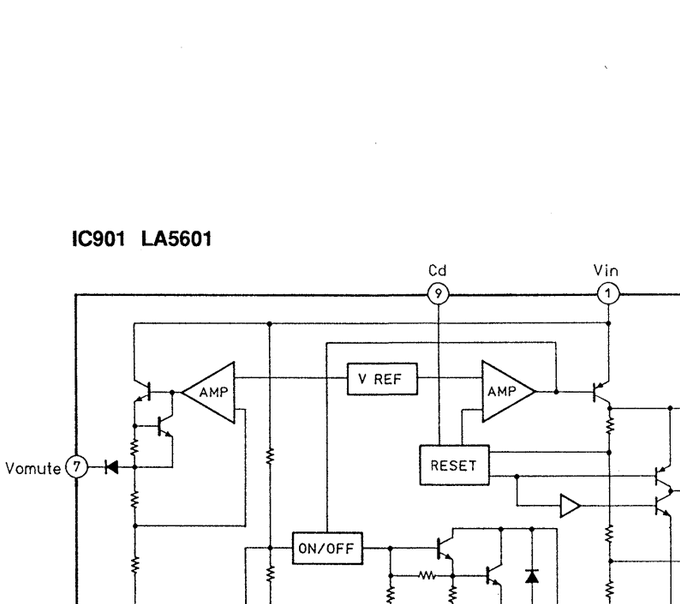


IC202 LB1641



IC901 LA5601

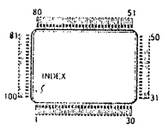
IC301 CXD2565M-1



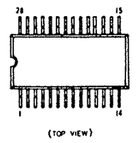
4-6. SEMICONDUCTOR LEAD LAYOUTS

BA6297AFP

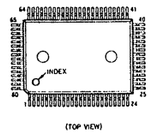
CXD2515Q



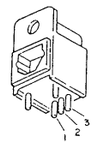
CXD2565M-1



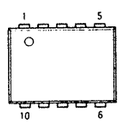
CXP82316-037Q



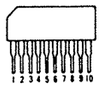
GP1F32TM



LA5601



LB1641

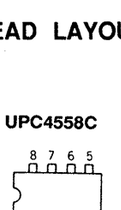


UPC4558C

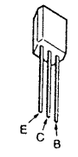
DTA144ES
DTC114ES
2SD2144S

2SA1175-HFE

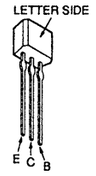
2SB1041



RD4.7ESB2
RD6.8ES-B3
RD30ES- B4
UZ-4.7BSB
UZ-6.8BSC
UZ-30BSD
11ES2



1N4148M



4-7. IC PIN FUNCTIONS

- **IC101 Digital Servo & DSP (CXD2515Q)**

Pin No.	Pin Name	I/O	Function
1	SRON	O	Sled drive output (Not used)
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output (Not used)
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output (Not used)
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output (Not used)
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output (Not used)
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output (Not used)
12	VCOO	O	VCO output for analog EFM PLL (Not used)
13	VCOI	I	VCO output for analog EFM PLL
14	TEST	I	TEST pin connected normally to GND
15	DVss	–	Digital GND
16	TES2	I	TEST pin connected normally to GND
17	TES3	I	TEST pin connected normally to GND
18	PDO	O	Charge-pump output for analog EFM PLL (Not used)
19	VPCO	O	Charge-pump output for variable pitch PLL (Not used)
20	VCKI	I	Clock input from variable pitch external VCO
21	AVD2	–	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	–	Analog GND
24	ADII	I	Input pin for A/D converter
25	ADIO	O	Operational amplifier output pin
26	RFDC	I	RF signal input
27	TE	I	Tracking error signal input
28	SE	I	Sled error signal input
29	FE	I	Focus error signal input
30	VC	I	Center voltage input pin
31	FILO	O	Filter output for master PLL
32	FILI	I	Filter input for master PLL
33	PCO	O	Charge-pump output for master PLL
34	CLTV	I	Control voltage input for master VCO
35	AVS1	–	Analog GND
36	RFAC	I	EFM signal input
37	BIAS	I	Asymmetry circuit constant current input
38	ASYI	I	Asymmetry comparate voltage input
39	ASYO	O	EFM full swing output
40	AVD1	–	Analog power supply

Pin No.	Pin Name	I/O	Function
41	DVDD	–	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock
45	LRCK	O	48-bit slot D/A interface. LR clock
46	DATA	O	DA 16 output when PSSL=1. 48-bit slot serial data when PSSL=0
47	BCLK	O	DA 15 output when PSSL=1. 48-bit slot data when PSSL=0
48	64DATA	O	DA 14 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
49	64BCLK	O	DA 13 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
50	64LRCK	O	DA 12 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
51	GTOP	O	DA 11 output when PSSL=1. GTOP output when PSSL=0 (Not used)
52	XUGF	O	DA 10 output when PSSL=1. XUGF output when PSSL=0 (Not used)
53	XPLCK	O	DA 09 output when PSSL=1. XPLCK output when PSSL=0
54	GFS	O	DA 08 output when PSSL=1. GFS output when PSSL=0
55	PFCK	O	DA 07 output when PSSL=1. RFCK output when PSSL=0
56	C2PO	O	DA 06 output when PSSL=1. C2PO output when PSSL=0 (Not used)
57	XRAOF	O	DA 05 output when PSSL=1. XRA0F output when PSSL=0 (Not used)
58	MNT3	O	DA 04 output when PSSL=1. MNT3 output when PSSL=0
59	MNT2	O	DA 03 output when PSSL=1. MNT2 output when PSSL=0
60	MNT1	O	DA 02 output when PSSL=1. MNT1 output when PSSL=0
61	MNT0	O	DA 01 output when PSSL=1. MNT0 output when PSSL=0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output (Not used)
64	XTSL	I	X'tal selection input pin (Connected to GND)
65	DVss	–	Digital GND
66	FSTI	I	2/3 divider output of pins 62, 63
67	FSTO	O	2/3 divider output of pins 62, 63
68	C4M	O	4.2336 MHz output (Not used)
69	C16M	O	16.9344 MHz output (Not used)
70	MD2	I	Digital-out ON/OFF control pin
71	DOUT	O	Digital-out output pin
72	EMPH	O	Playback disc output in emphasis mode (Not used)
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output (Not used)
76	EXCK	I	Clock input for SBS0 read-out (Connected to GND)
77	SUBQ	O	Sub-Q 80-bit output
78	SQCK	I	Clock input for SQS0 read-out
79	MUTE	I	Muting selection pin
80	SENS	O	SENS output
81	XRST	I	System reset
82	DIRC	I	Used in 1-track jump mode (Connected to +5V)
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin
85	ATSK	I	Input pin for anti-shock

Pin No.	Pin Name	I/O	Function
86	DATA	I	Serial data input, supplied from IC201 (master control)
87	XLAT	I	Latch input, supplied from IC201 (master control)
88	CLOK	I	Serial data transfer clock input, supplied from IC201 (master control)
89	COUT	O	Numbers of track counted signal output (Not used)
90	DV_{DD}	–	Digital power supply
91	MIRR	O	Mirror signal output (Not used)
92	DFCT	O	Defect signal output (Not used)
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter (Not used)
95	MON	O	Output to control ON/OFF of spindle motor (Not used)
96	MDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo (Not used)
98	LOCK	O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

- **IC201 Master Control (CXP82316-037Q)**

Pin No.	Pin Name	I/O	Function
1	TIMER	–	Connected to GND.
2	BUS IN	I	Audio bus input.
3	+5V	–	Connected to +5V.
4	OPEN	–	Not used. (open).
5	OPEN	–	
6	BUS OUT	O	Audio bus output.
7	PGML	O	Latch signal output to digital filter (IC301).
8	CLK	O	Serial clock output.
9	SENSE	I	SENSE signal input.
10	DATA	O	Serial data output.
11	SQCK	O	Read out clock output for subcode Q data.
12	SUBQ	I	Subcode Q data input.
13	OPEN	–	Not used. (open)
14	AMUTE	O	Analog muting control signal output.
15	LDON	O	Optical pickup laser diode control output.
16	XLT	O	Serial data latch signal output.
17	RV LED	O	Remote commander volume LED. (Not used. (open))
18	RV+	O	Remote commander volume +. (Not used. (open))
19	RV–	O	Remote commander volume –. (Not used. (open))
20	LDOUT	O	Loading motor control signal output.
21	LDIN	O	
22 to 27	KEY0 to KEY5	I	Key input. (S202 to S229)
28	ADJ/AFADJ	–	ADJ, AFJ test pin.
29	IN/OUTSW	I	Loading IN/OUT switch input.
30	RST	I	Reset signal input.
31	EXTAL	I	Clock input. (4 MHz)
32	XTAL	O	Clock output. (4 MHz)
33	Vss	–	GND
34 to 41	OPEN	–	Not used. (open)
42 to 62	S1 to S21	O	FL segment output.
63 to 67	1G to 5G	O	FL grid output.
68	OPEN	–	Not used. (open).
69	6G	O	FL grid output.
70	7G	O	
71	VFDP (–30V)	–	–30V pin for FL display tube.
72	VDD (+5V)	–	+5V pin.
73	——	–	
74	SEL1	–	Connected to GND.
75	IN PORT	–	Not used. (open).
76	IN PORT	–	
77	IN PORT	–	
78	SCOR	I	Read out timing signal input for subcode Q data.
79	SEL2	–	Connected to +5V.
80	SEL3	–	Connected to GND.

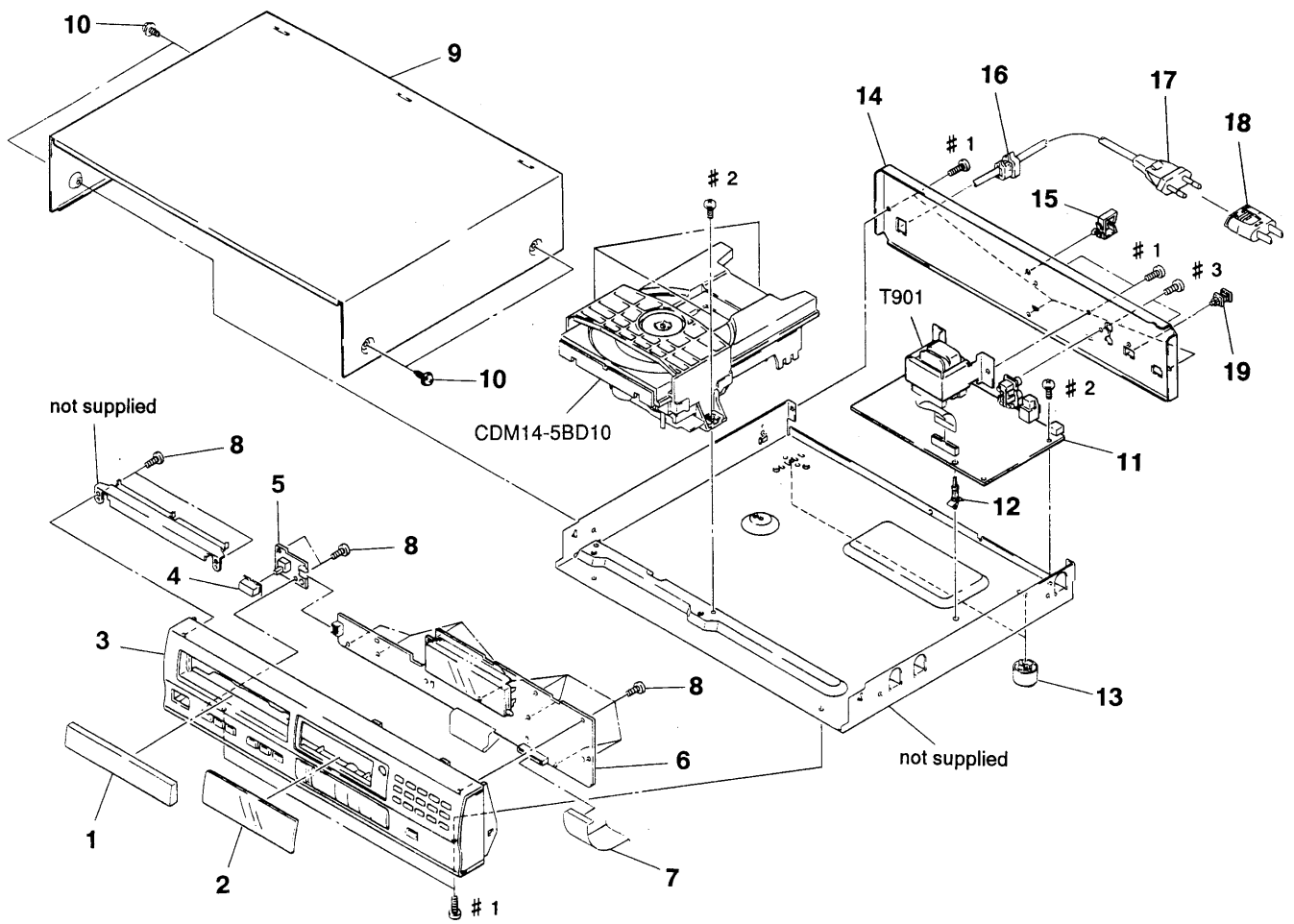
SECTION 5
EXPLODED VIEWS

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts color Cabinet's color
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- EA : Saudi Arabia model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

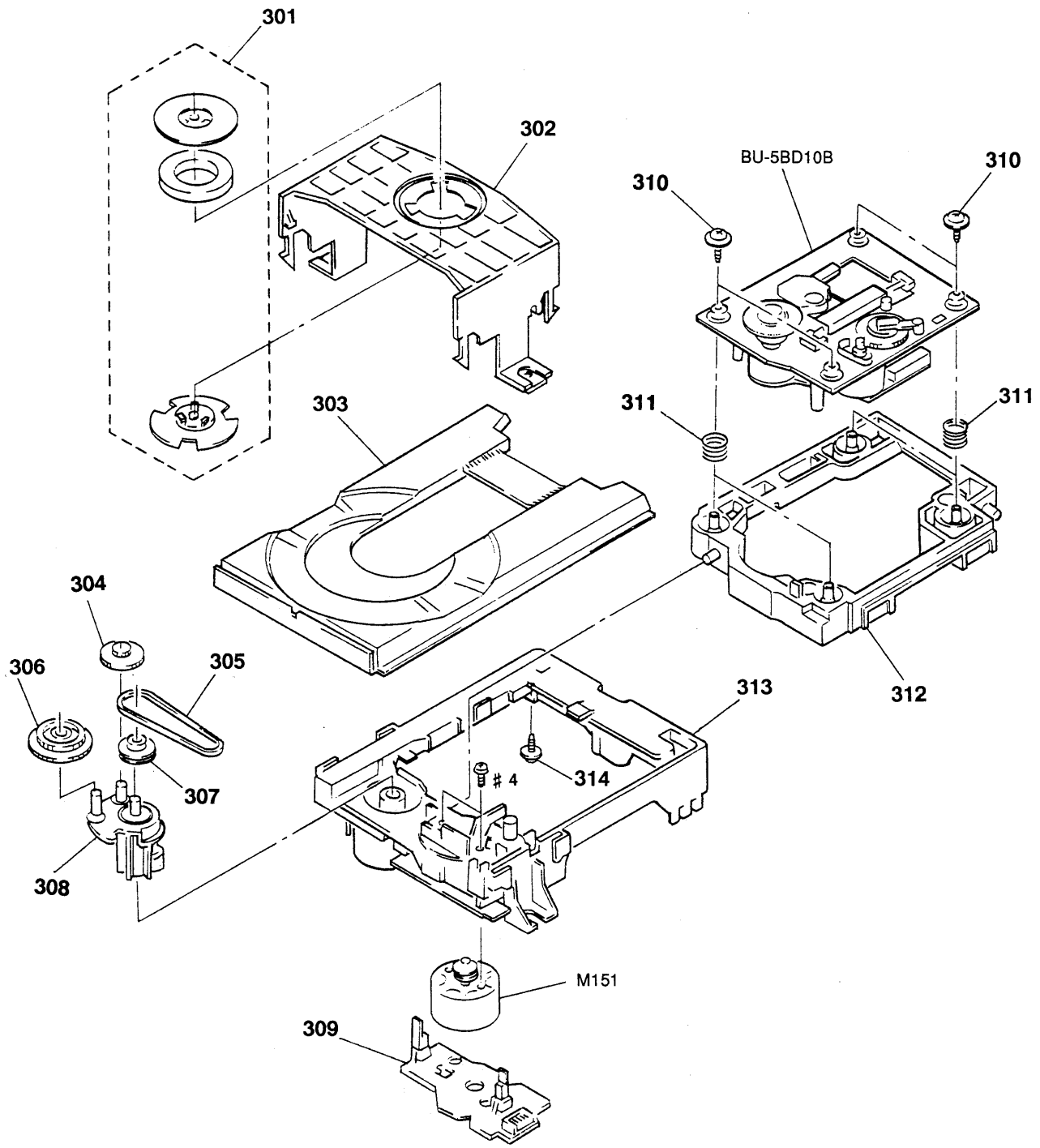
5-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	4-963-099-11	PANEL, LOADING	
2	4-963-100-01	PLATE, INDICATION	
3	X-4944-764-1	PANEL ASSY, FRONT	
4	4-963-098-01	BUTTON (POWER)	
* 5	1-650-484-11	POWER BOARD	
* 6	A-4673-054-A	DISPLAY BOARD, COMPLETE (AEP)	
* 6	A-4673-112-A	DISPLAY BOARD, COMPLETE (E, EA)	
7	1-751-947-11	WIRE (FLAT TYPE) (21 CORE)	
8	4-951-620-01	SCREW (2.6X8), +BVTP	
9	4-919-376-31	CASE	
10	3-704-366-01	SCREW (CASE) (M3X8)	
* 11	A-4673-053-A	MAIN BOARD, COMPLETE (AEP)	
* 11	A-4673-055-A	MAIN BOARD, COMPLETE (E, EA)	
* 12	4-954-051-51	HOLDER, PC BOARD	
13	4-931-169-01	FOOT	

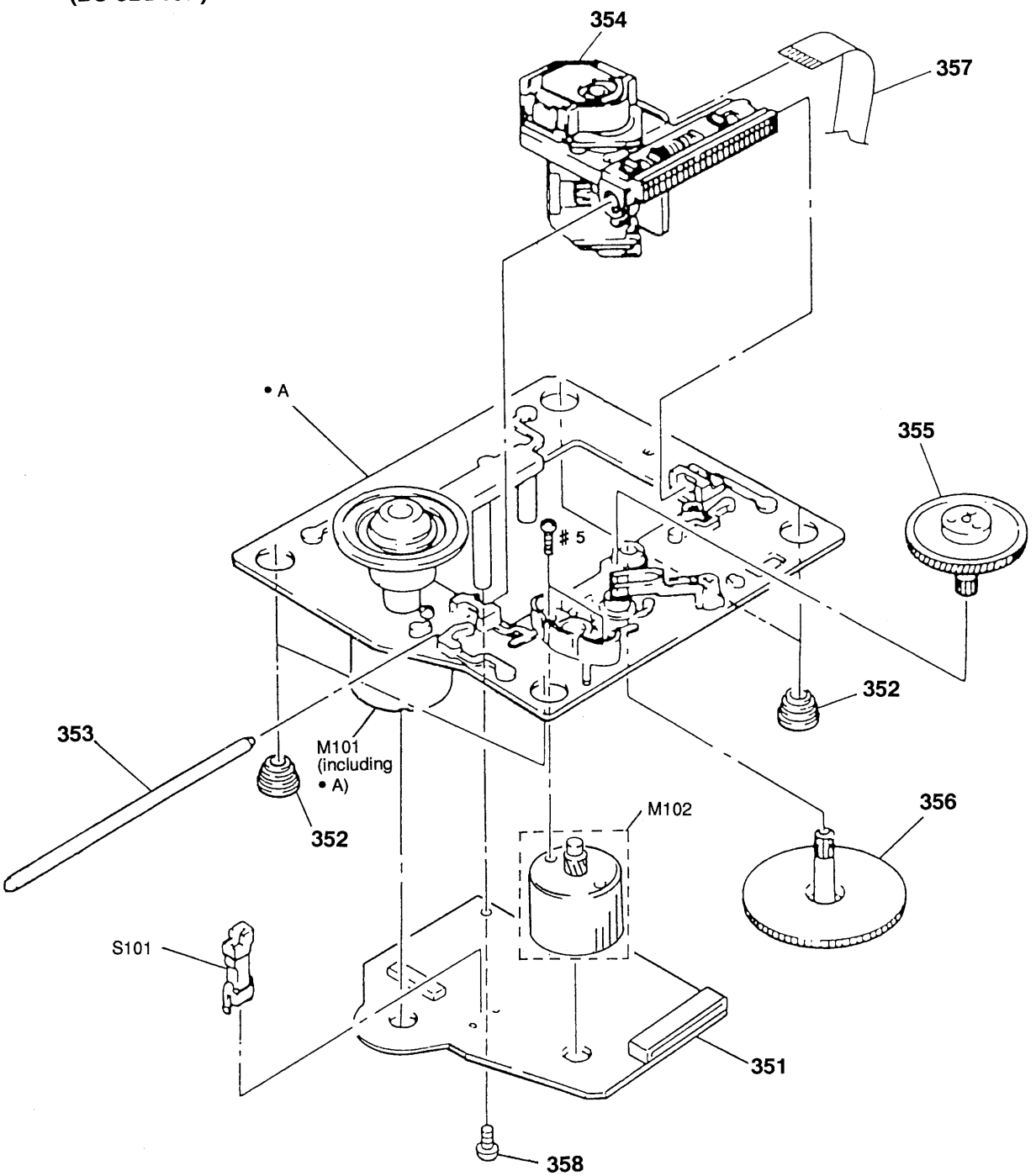
Ref. No.	Part No.	Description	Remark
* 14	4-964-507-01	PANEL, BACK (Made in JAPAN) (AEP)	
* 14	4-964-507-11	PANEL, BACK (E, EA)	
* 14	4-963-101-01	PANEL, BACK (Made in FRANCE)	
* 15	4-949-235-01	HOOK (Made in JAPAN)	
* 15	3-681-263-11	SADDLE, WIRE (Made in FRANCE)	
* 16	3-703-244-00	BUSHING (2104), CORD (AEP, EA)	
* 16	3-703-571-11	BUSHING (S) (4516), CORD (E)	
⚠17	1-575-651-71	CORD, POWER (AEP, EA)	
⚠17	1-575-656-21	CORD, POWER (E)	
⚠18	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠18	1-569-008-11	ADAPTER, CONVERSION 2P (EA)	
19	1-251-199-11	CAP (OPT) (AEP)	
⚠T901	1-423-979-11	TRANSFORMER, POWER (AEP)	
⚠T901	1-426-622-11	TRANSFORMER, POWER (E, EA)	

5-2. CD MECHANISM SECTION (CDM14-5BD10)



Ref. No.	Part No.	Description	Remark
* 301	1-452-538-11	MAGNET	
302	4-933-110-01	HOLDER (MG)	
303	4-933-112-01	TABLE, DISK	
304	4-927-628-01	GEAR (C)	
305	4-927-649-01	BELT	
306	4-933-107-01	GEAR (PL)	
307	4-927-651-01	PULLEY (S)	
308	4-933-109-01	CAM	
* 309	1-645-721-11	LOADING BOARD	
310	4-933-134-01	SCREW (+PTPWH M2.6X6)	
311	4-959-996-01	SPRING (932), COMPRESSION	
312	4-933-129-01	HOLDER (BU)	
313	4-933-111-01	CHASSIS (MD)	
* 314	4-917-583-21	BRACKET, YOKE	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

5-3. OPTICAL PICK-UP BLOCK SECTION (BU-5BD10B)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 351	A-4649-432-A	BD BOARD, COMPLETE	
352	4-951-940-01	INSULATOR (BU)	
353	4-917-565-01	SHAFT, SLED	
⚠354	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)	
355	4-917-567-01	GEAR (M)	
356	4-917-564-01	GEAR (P), FLATNESS	
357	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
358	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

BD

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- EA: Saudi Arabia model

Ref.No.	Part No.	Description			Remark
*	A-4649-432-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C123	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C151	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C156	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C157	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C158	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-361-90	IC CXD2515Q			
IC102	8-759-071-79	IC BA6297AFP			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-00	METAL CHIP	100K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-121-00	METAL CHIP	1M	5%	1/10W
R110	1-216-025-00	METAL CHIP	100	5%	1/10W
R112	1-216-049-00	METAL CHIP	1K	5%	1/10W
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W
R114	1-216-077-00	METAL CHIP	15K	5%	1/10W
R117	1-216-077-00	METAL CHIP	15K	5%	1/10W
R118	1-216-077-00	METAL CHIP	15K	5%	1/10W
R121	1-216-077-00	METAL CHIP	15K	5%	1/10W
R122	1-216-077-00	METAL CHIP	15K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-00	METAL CHIP	100K	5%	1/10W
R125	1-216-049-00	METAL CHIP	1K	5%	1/10W
R126	1-216-049-00	METAL CHIP	1K	5%	1/10W
R127	1-216-049-00	METAL CHIP	1K	5%	1/10W
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R151	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R152	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R153	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R154	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R155	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R156	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R157	1-216-093-00	METAL CHIP	68K	5%	1/10W
R158	1-216-076-00	METAL CHIP	13K	5%	1/10W
R159	1-216-085-00	METAL CHIP	33K	5%	1/10W
R160	1-216-081-00	METAL CHIP	22K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-093-00	METAL CHIP	68K	5%	1/10W
R163	1-216-093-00	METAL CHIP	68K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			

****

DISPLAY

Ref. No.	Part No.	Description				Remark
*	A-4673-054-A	DISPLAY BOARD, COMPLETE (AEP)				
		**********				
*	A-4673-112-A	DISPLAY BOARD, COMPLETE (E, EA)				
		**********				
		< CAPACITOR >				
C201	1-164-159-11	CERAMIC	0.1uF		50V	
C202	1-164-159-11	CERAMIC	0.1uF		50V	
C203	1-161-494-00	CERAMIC	0.022uF		25V	
C204	1-164-159-11	CERAMIC	0.1uF		50V	
C205	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C206	1-162-282-31	CERAMIC	100PF	10%	50V	
C207	1-136-165-00	FILM	0.1uF	5%	50V	
		< CONNECTOR >				
CN201	1-750-999-11	CONNECTOR, FFC/FPC 21P				
CN203	1-750-185-11	CONNECTOR, BOARD TO BOARD 4P				
		< CONNECTOR >				
CNP201	1-537-472-11	JUMPER, FILM (WITH TERMINAL) 23P				
		< DIODE >				
D201	8-719-109-81	DIODE RD4.7ESB2				
		< FLUORESCENT INDICATOR >				
FLD201	1-519-752-11	INDICATOR TUBE, FLUORESCENT				
		< IC >				
IC201	8-752-851-82	IC CXP82316-037Q				
IC202	8-759-822-09	IC LB1641				
		< COIL >				
L201	1-410-322-11	INDUCTOR 3.3uH (AEP)				
L202	1-410-322-11	INDUCTOR 3.3uH				
		< TRANSISTOR >				
Q201	8-729-900-80	TRANSISTOR DTC114ES				
		< RESISTOR >				
R201	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R202	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R203	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R204	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R205	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R206	1-249-426-11	CARBON	5.6K	5%	1/4W	
R207	1-249-430-11	CARBON	12K	5%	1/4W	
R208	1-249-435-11	CARBON	33K	5%	1/4W	
R209	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R210	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R211	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R212	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R213	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R214	1-249-426-11	CARBON	5.6K	5%	1/4W	
R215	1-249-430-11	CARBON	12K	5%	1/4W	
R216	1-249-435-11	CARBON	33K	5%	1/4W	
R217	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R218	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R219	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R220	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R221	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R222	1-249-426-11	CARBON	5.6K	5%	1/4W	
R223	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R224	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R225	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R226	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R227	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R228	1-249-426-11	CARBON	5.6K	5%	1/4W	
R229	1-249-441-11	CARBON	100K	5%	1/4W	
R230	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R231	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R232	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R234	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R235	1-249-417-11	CARBON	1K	5%	1/4W	F
R236	1-249-428-11	CARBON	8.2K	5%	1/4W	F
		< SWITCH >				
S202	1-554-303-21	SWITCH, TACTILE (CONTINUE)				
S203	1-554-303-21	SWITCH, TACTILE (SHUFFLE)				
S204	1-554-303-21	SWITCH, TACTILE (PROGRAM)				
S205	1-554-303-21	SWITCH, TACTILE (TIME)				
S206	1-554-303-21	SWITCH, TACTILE (REPEAT)				
S207	1-554-303-21	SWITCH, TACTILE (FADER)				
S208	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)				
S209	1-554-303-21	SWITCH, TACTILE (▷)				
S210	1-554-303-21	SWITCH, TACTILE (▮▮)				
S211	1-554-303-21	SWITCH, TACTILE (■)				
S212	1-554-303-21	SWITCH, TACTILE (⏮/◀◀)				
S213	1-554-303-21	SWITCH, TACTILE (⏭/▶▶)				
S214	1-554-303-21	SWITCH, TACTILE (EDIT)				
S215	1-554-303-21	SWITCH, TACTILE (1)				
S216	1-554-303-21	SWITCH, TACTILE (2)				
S217	1-554-303-21	SWITCH, TACTILE (3)				
S218	1-554-303-21	SWITCH, TACTILE (4)				
S219	1-554-303-21	SWITCH, TACTILE (5)				
S220	1-554-303-21	SWITCH, TACTILE (6)				
S221	1-554-303-21	SWITCH, TACTILE (7)				
S222	1-554-303-21	SWITCH, TACTILE (8)				
S223	1-554-303-21	SWITCH, TACTILE (9)				

DISPLAY | LOADING | MAIN

Ref. No.	Part No.	Description			Remark
S224	1-554-303-21	SWITCH, TACTILE (10)			
S225	1-554-303-21	SWITCH, TACTILE (M. SCAN)			
S226	1-554-303-21	SWITCH, TACTILE (P. SEARCH)			
S227	1-554-303-21	SWITCH, TACTILE (CHECK)			
S228	1-554-303-21	SWITCH, TACTILE (CLEAR)			
S229	1-554-303-21	SWITCH, TACTILE (>10)			
		< VIBRATOR >			
X201	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			
**********					
*	1-645-721-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P			
		< MOTOR >			
M151	A-4640-363-A	MOTOR (L) ASSY (LOADING)			
		< SWITCH >			
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)			
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)			
**********					
*	A-4673-053-A	MAIN BOARD, COMPLETE (AEP)			
		**********			
*	A-4673-055-A	MAIN BOARD, COMPLETE (E, EA)			
		**********			
		< CAPACITOR >			
C301	1-126-923-11	ELECT	220uF	20% 10V	
C302	1-126-923-11	ELECT	220uF	20% 10V	
C303	1-161-494-00	CERAMIC	0.022uF	25V	
C305	1-161-494-00	CERAMIC	0.022uF	25V	(E, EA)
C305	1-164-159-11	CERAMIC	0.1uF	50V	(AEP)
C306	1-161-494-00	CERAMIC	0.022uF	25V	(E, EA)
C306	1-164-159-11	CERAMIC	0.1uF	50V	(AEP)
C307	1-162-282-31	CERAMIC	100PF	10% 50V	
C308	1-162-282-31	CERAMIC	100PF	10% 50V	
C309	1-161-494-00	CERAMIC	0.022uF	25V	
C310	1-161-494-00	CERAMIC	0.022uF	25V	
C311	1-124-126-00	ELECT	47uF	20% 16V	
C312	1-124-126-00	ELECT	47uF	20% 16V	
C313	1-162-196-31	CERAMIC	5.6PF	10% 50V	
C314	1-162-196-31	CERAMIC	5.6PF	10% 50V	
C315	1-164-159-11	CERAMIC	0.1uF	50V	
C316	1-126-933-11	ELECT	100uF	20% 16V	
C317	1-162-290-31	CERAMIC	470PF	10% 50V	
C321	1-162-215-31	CERAMIC	47PF	5% 50V	
C322	1-162-215-31	CERAMIC	47PF	5% 50V	
C323	1-162-215-31	CERAMIC	47PF	5% 50V	
C324	1-162-215-31	CERAMIC	47PF	5% 50V	
C325	1-124-126-00	ELECT	47uF	20% 16V	
C326	1-124-126-00	ELECT	47uF	20% 16V	
C327	1-130-472-00	MYLAR	0.0012uF	5% 50V	
C328	1-130-472-00	MYLAR	0.0012uF	5% 50V	
C329	1-130-479-00	MYLAR	0.0047uF	5% 50V	
C330	1-130-479-00	MYLAR	0.0047uF	5% 50V	
C331	1-124-126-00	ELECT	47uF	20% 16V	
C332	1-124-126-00	ELECT	47uF	20% 16V	
C333	1-130-468-00	MYLAR	560PF	5% 50V	
C334	1-130-468-00	MYLAR	560PF	5% 50V	
C351	1-136-165-00	FILM	0.1uF	5% 50V	(AEP)
C401	1-124-126-00	ELECT	47uF	20% 16V	
C402	1-164-159-11	CERAMIC	0.1uF	50V	
C403	1-164-159-11	CERAMIC	0.1uF	50V	
C901	1-124-894-11	ELECT	6800uF	20% 16V	(AEP)
C901	1-126-768-11	ELECT	2200uF	20% 16V	(E, EA)
C902	1-126-939-11	ELECT	10000uF	20% 16V	
C903	1-128-576-11	ELECT	100uF	20% 63V	
C904	1-164-159-11	CERAMIC	0.1uF	50V	
C908	1-126-964-11	ELECT	10uF	20% 50V	
C909	1-126-964-11	ELECT	10uF	20% 50V	
C910	1-126-934-11	ELECT	220uF	20% 16V	
C911	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C912	1-126-964-11	ELECT	10uF	20% 50V	
C913	1-126-934-11	ELECT	220uF	20% 16V	
C914	1-124-903-11	ELECT	1uF	20% 50V	
C915	1-126-964-11	ELECT	10uF	20% 50V	
C916	1-126-964-11	ELECT	10uF	20% 50V	
C917	1-126-964-11	ELECT	10uF	20% 50V	
C918	1-164-159-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
CN301	1-750-999-11	CONNECTOR, FFC/FPC 21P			
* CN401	1-565-561-11	PIN, CONNECTOR 3P			
* CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P			
		< DIODE >			
D401	8-719-987-63	DIODE	1N4148M		
D901	8-719-200-82	DIODE	11ES2		
D902	8-719-200-82	DIODE	11ES2		
D903	8-719-200-82	DIODE	11ES2		
D904	8-719-200-82	DIODE	11ES2		
D905	8-719-200-82	DIODE	11ES2		
D906	8-719-987-63	DIODE	1N4148M		
D907	8-719-109-98	DIODE	RD6.8ES-B3		

Ref. No.	Part No.	Description	Remark
D908	8-719-113-90	DIODE RD30ES-T2B4	
D909	8-719-987-63	DIODE 1N4148M	
D910	8-719-987-63	DIODE 1N4148M	
D911	8-719-987-63	DIODE 1N4148M	
D912	8-719-987-63	DIODE 1N4148M	
D913	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC301	8-752-360-60	IC CXD2565M-1	
IC302	8-759-145-58	IC UPC4558C	
IC303	8-759-145-58	IC UPC4558C	
IC351	8-759-265-78	IC GP1F32TN (DIGITAL OUT OPTICAL) (AEP)	
IC901	8-759-821-93	IC LA5601	
		< JACK >	
J301	1-750-679-21	JACK, PIN 2P (LINE OUT)	
		< COIL >	
L301	1-410-507-11	INDUCTOR 6.8uH (AEP)	
L302	1-410-322-11	INDUCTOR 3.3uH	
L303	1-410-322-11	INDUCTOR 3.3uH	
L304	1-247-807-11	CARBON 100 5% 1/4W (E, EA)	
L304	1-410-507-11	INDUCTOR 6.8uH (AEP)	
L351	1-410-322-11	INDUCTOR 3.3uH (AEP)	
L401	1-410-322-11	INDUCTOR 3.3uH	
L901	1-408-429-00	INDUCTOR 470uH	
		< TRANSISTOR >	
Q301	8-729-922-37	TRANSISTOR 2SD2144S	
Q302	8-729-922-37	TRANSISTOR 2SD2144S	
Q401	8-729-900-80	TRANSISTOR DTC114ES	
Q901	8-729-019-64	TRANSISTOR 2SB1041	
Q902	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q903	8-729-900-65	TRANSISTOR DTA144ES	
		< RESISTOR >	
R301	1-249-418-11	CARBON 1.2K 5% 1/4W F	
R302	1-249-409-11	CARBON 220 5% 1/4W F (AEP)	
R302	1-249-411-11	CARBON 330 5% 1/4W (E, EA)	
R303	1-249-417-11	CARBON 1K 5% 1/4W F	
R304	1-249-436-11	CARBON 39K 5% 1/4W	
R305	1-249-436-11	CARBON 39K 5% 1/4W	
R306	1-247-807-11	CARBON 100 5% 1/4W	
R307	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R308	1-249-436-11	CARBON 39K 5% 1/4W	
R309	1-249-436-11	CARBON 39K 5% 1/4W	
R321	1-249-431-11	CARBON 15K 5% 1/4W	
R322	1-249-431-11	CARBON 15K 5% 1/4W	
R323	1-249-431-11	CARBON 15K 5% 1/4W	
R324	1-249-431-11	CARBON 15K 5% 1/4W	
R325	1-249-437-11	CARBON 47K 5% 1/4W	
R326	1-249-437-11	CARBON 47K 5% 1/4W	
R327	1-249-437-11	CARBON 47K 5% 1/4W	
R328	1-249-437-11	CARBON 47K 5% 1/4W	
R329	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R330	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R331	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R332	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R333	1-247-891-00	CARBON 330K 5% 1/4W	
R334	1-247-891-00	CARBON 330K 5% 1/4W	
R335	1-249-417-11	CARBON 1K 5% 1/4W F	
R336	1-249-417-11	CARBON 1K 5% 1/4W F	
R337	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R338	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R401	1-249-429-11	CARBON 10K 5% 1/4W	
R402	1-249-417-11	CARBON 1K 5% 1/4W F	
R403	1-249-393-11	CARBON 10 5% 1/4W F	
R901	1-249-432-11	CARBON 18K 5% 1/4W	
R902	1-249-432-11	CARBON 18K 5% 1/4W	
R903	1-249-441-11	CARBON 100K 5% 1/4W	
R904	1-249-441-11	CARBON 100K 5% 1/4W	
R905	1-249-432-11	CARBON 18K 5% 1/4W	
R906	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R907	1-249-385-11	CARBON 2.2 5% 1/6W F	
R908	1-247-807-11	CARBON 100 5% 1/4W	
R909	1-249-441-11	CARBON 100K 5% 1/4W	
R910	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R911	1-249-404-00	CARBON 82 5% 1/4W	
		< SWITCH >	
⚠SW901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (E, EA)	
		< TRANSFORMER >	
⚠T901	1-423-979-11	TRANSFORMER, POWER (AEP)	
⚠T901	1-426-622-11	TRANSFORMER, POWER (E, EA)	
		< VIBRATOR >	
X301	1-579-833-21	VIBRATOR, CRYSTAL (33.8688MHz) (E, EA)	
X301	1-579-834-11	VIBRATOR, CRYSTAL (33.8688MHz) (AEP)	
**********			
*	1-650-484-11	POWER BOARD	
		**********	
		< CONNECTOR >	
CN204	1-750-194-11	CONNECTOR, BOARD TO BOARD 4P	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

POWER

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S201	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
		**********	
		MISCELLANEOUS	
		**********	
7	1-751-947-11	WIRE (FLAT TYPE) (21 CORE)	
⚠17	1-575-651-71	CORD, POWER (AEP, EA)	
⚠17	1-575-656-21	CORD, POWER (E)	
⚠18	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠18	1-569-008-11	ADAPTER, CONVERSION 2P (EA)	
19	1-251-199-11	CAP (OPT) (AEP)	
* 301	1-452-538-11	MAGNET	
⚠354	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
⚠T901	1-426-622-11	TRANSFORMER, POWER (E, EA)	
⚠T901	1-423-979-11	TRANSFORMER, POWER (AEP)	
		**********	
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-558-271-11	CORD, CONNECTION (AUDIO) (108cm AEP)	
*	4-922-998-06	CUSHION (four pieces in one package)	
*	4-948-882-51	INDIVIDUAL CARTON (Made in FRANCE)	
*	4-965-377-01	INDIVIDUAL CARTON (Made in JAPAN)	
		**********	
		**********	
		HARDWARE LIST	
		**********	
#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-682-547-09	SCREW +BVTT 3X6 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-621-775-10	SCREW +B 2.6X4	
#5	7-621-255-15	SCREW +P 2X3	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-959-376-11

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

English
94K09022-3(3)
Printed in Japan

Published by Home A&V Products Div.
Quality Engineering Dept.

TC-A590/A790

SERVICE MANUAL

AEP Model
E Model
Australian Model

Photo: TC-A590

TC-A590/A790 is the Cassette deck in LBT-A590/A595/A790/A795.

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Sony Type IV cassette 30 Hz to 15 kHz (± 3 dB) With Sony Type II cassette 40 Hz to 14 kHz (± 3 dB) With Sony Type I cassette 40 Hz to 13 kHz (± 3 dB)
Wow and flutter	W.PEAK ± 0.2% (DIN)
Weight	Approx. 3.4 kg (7 lbs 8 oz)
Dimensions	Approx. 355 x 135 x 310 mm (14 x 5 1/4 x 12 3/16 inches) (w/h/d, including projections)

Model Name Using Similar Mechanism		HTC-D209/D309/ D259/D359
Tape Transport Mechanism Type	DECK A	TCM-190RA12CL
	DECK B	TC-A590: TCM-190RB42C7 TC-A790: TCM-190RB12CL

MICROFILM

CASSETTE DECK

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SERVICE NOTE

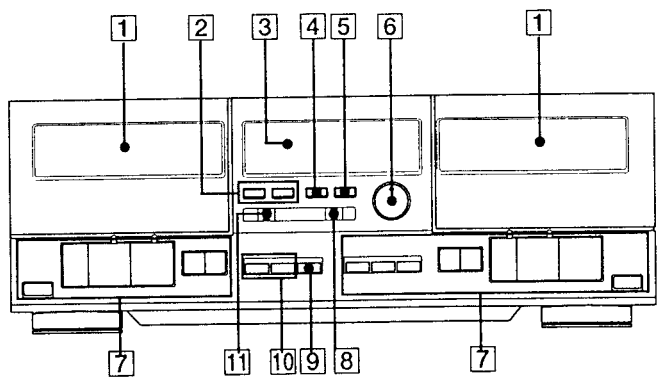
- **Power Supply Used in Servicing**
  This unit does not have its own power supply. As it works on the power supplied from the amplifier (TA-A590) used for this series, connect this amplifier when servicing the unit (conduction repair, etc.).

TABLE OF CONTENTS

SECTION 1
GENERAL

This section is extracted from instruction manual.

• LOCATION OF CONTROLS



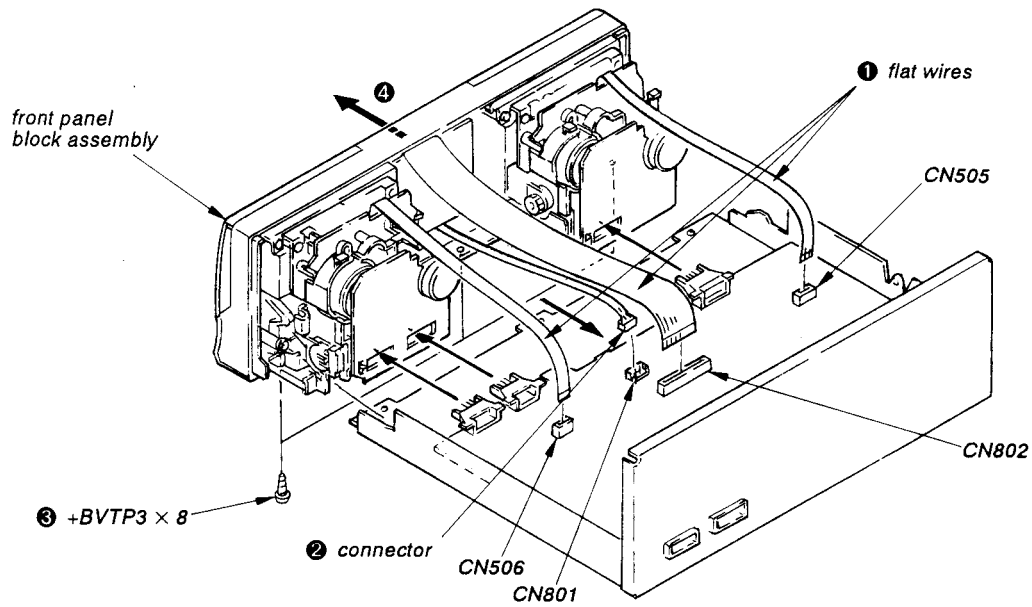
1 Cassette holders
2 COUNTER RESET buttons (36)
3 Display window
4 FADER button (46)
5 ARL button (44)
6 REC LEVEL control (44)
7 Tape operation buttons
◀◀ Leftward fast winding/AMS*,
▶▶ Rightward fast winding/AMS*,
▶ Forward play,
◀ Reverse play,
■ Stop, ⏏ EJECT, ❚❚ PAUSE (deck B only),
○ REC MUTE (recording mute) (deck B only),
● REC Record (deck B only)
8 DOLBY NR (noise reduction) selector (38)
9 CD SYNCHRO button (70)
10 SYNCHRO DUBBING buttons (48)
11 DIRECTION MODE selector (34, 38, 48, 52)

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

FRONT PANEL BLOCK ASSEMBLY



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

Precautions:

1. Clean the following parts with a denatured-alcoholmoistened swab;
   record/playback/erase head
   pinch roller rubber belts
   capstan idler
2. Demagnetize the record/playback head with a head demagnetizer. (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	35 to 60 g • cm (0.49 to 0.83 oz•inch)
FWD Back tension	CQ-102C	2 to 60 g • cm (0.03 to 0.08 oz•inch)
REV	CQ-102RC	35 to 60 g • cm (0.49 to 0.83 oz inch)
REV Back tension	CQ-102RC	2 to 6 g • cm (0.03 to 0.08 oz•inch)
FF, REW	CQ-201B	70 to 110 g • cm (0.98 to 1.52 oz•inch)

3-2. ELECTRICAL ADJUSTMENTS

0 dB = 0.775 V (AF)

Precautions:

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver fot the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch : OFF
  TAPE: TYPE I

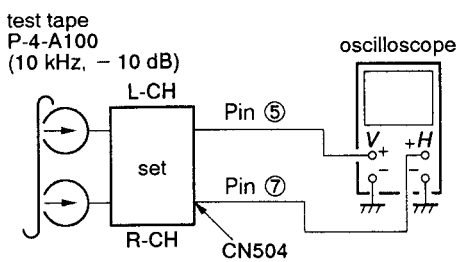
Type	Signal	Used for
P-4-A100	6.3 kHz, − 10 dB	Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	PB Level Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment DECK A DECK B

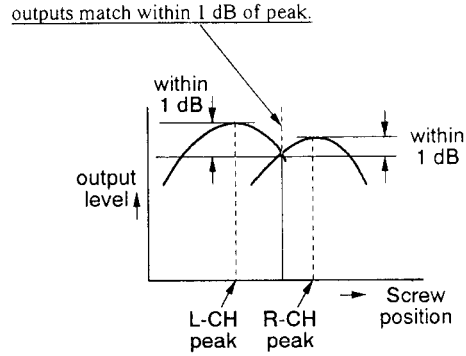
Note: Perform this adjustments for both decks.

Procedure:

1. Mode: FWD playback

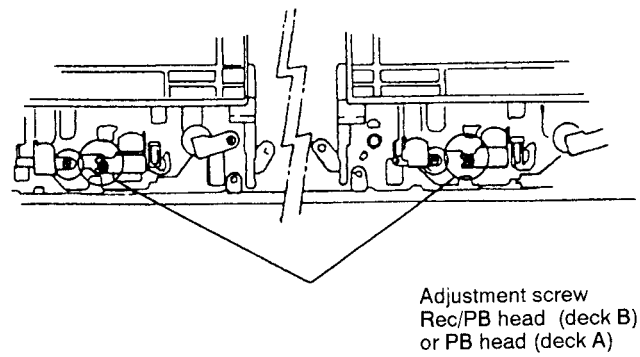


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



3. After the adjustments, apply suitable locking compound to the parts adjusted.

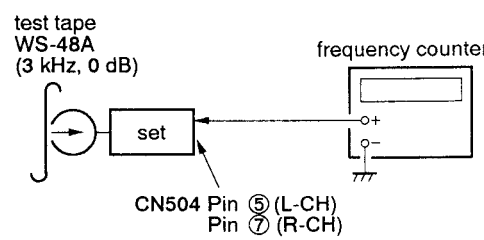
Adjustment Location:



Tape Speed Adjustment DECK A DECK B

Procedure:

Mode: playback



- High speed adjustment

1. Short-circuit JW5 and JW6 (main board) when the power is off.
2. Turn on the power and put the deck A into the FWD mode.
3. Push HIGH SPEED button.
4. Adjustment RV72 so that the frequency counter reads 6.000 ± 60 Hz.
5. Adjust the deck B in the same manner as the deck B.
6. Remove the short of JW5 and JW6.

- NORMAL speed adjustment

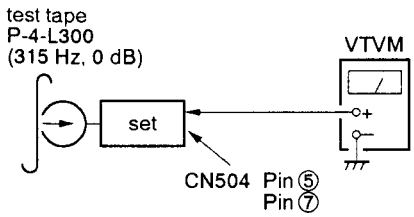
1. Push NORMAL speed button.
2. Adjust RV71 so that the frequency counter reads 3,000 ± 30 Hz.

   (See page 6 for Adjusting Parts Location)

   Frequency difference between deck A and deck B the beginning of the tape should be within 1%.

Playback Level Adjustment DECK A DECK B

Procedure:



Mode: FWD playback
DECK-A side RV11(L-CH), RV21(R-CH)
DECK-B side RV11(L-CH), RV21(R-CH)
so that the limits below are satisfied.

Adjustable limits:

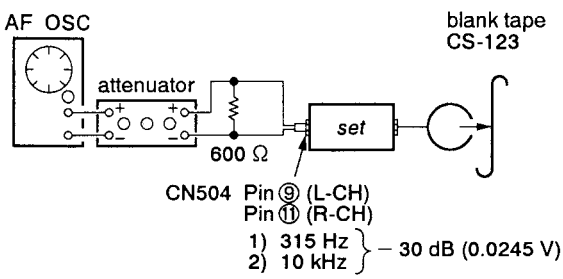
CN504 Level: − 7.7 ± 0.5 dB (0.301 − 0.338 V)
level difference between the channels: within 1.0 dB (See page 6 for Adjusting Parts Location)

Record BIAS Current Adjustment DECK B

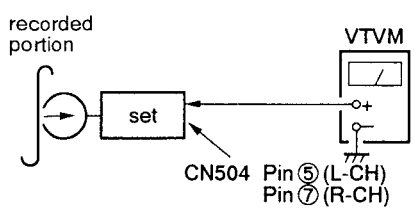
[TC-A590]

Procedure:

1. Mode: record



2. Mode : playback



Playback the signal recorded in step 1.
Confirm that the 10 kHz playback output is 0 ± 0.5 dB relative to the 315 Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

[TC-A790]

Procedure:

1. Set RV81 and RV91 to mechanical center and turn the set recording mode under the no-signal condition.
2. Connect digital voltmeter as shown by the following table.
3. Adjust the following transformers for the minimum readings on the digital voltmeter.

	Mesurement Point	Adjustment	Value
L	① and ②, TP81	T81	less than 200 mV
R	② and ③, TP81	T91	

(See page 6 for Adjusting Parts Location)

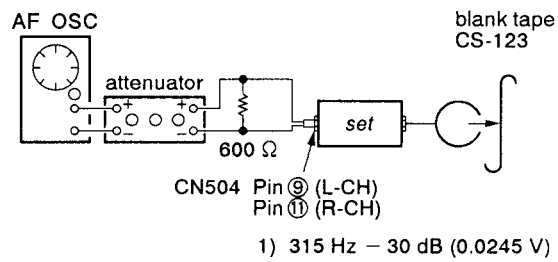
Record Level/REC Monitor L/R Balance Adjustments DECK B

Setting:

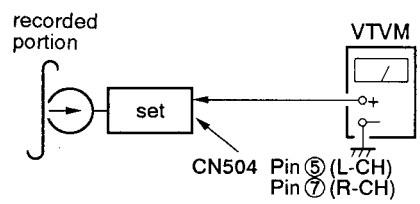
TAPE: TYPE I

Procedure:

1. Mode: record



2. When the level difference between the channels on monitoring the recording signal at Pins ⑤ and ⑦ of CN504 goes 0.5 dB or more, adjust with RV401 so that the level difference (REC monitor L/R balance adjustment) goes 0 dB.
3. Mode: playback

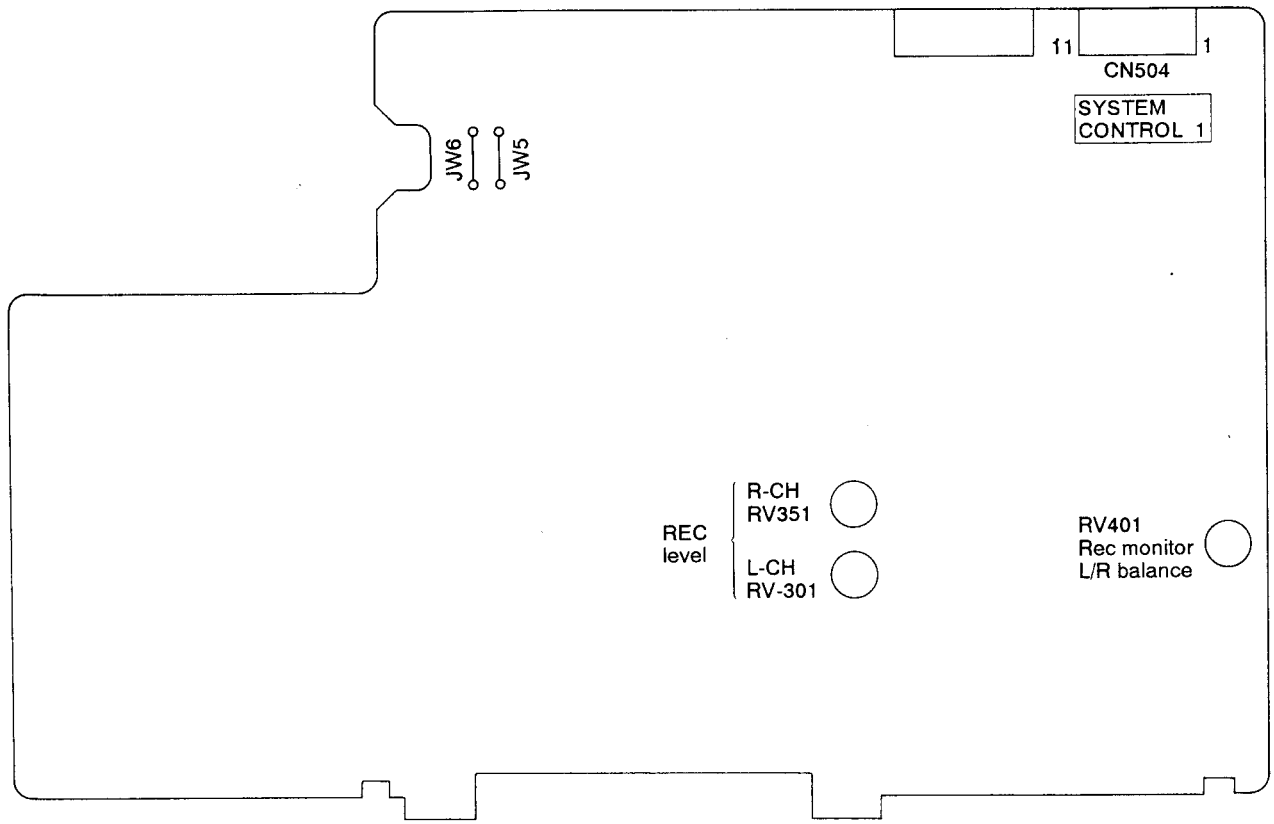


4. Playback the signal recorded in step 1.
   Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV301 (L-CH), RV351 (R-CH) and repeat the step 1-3.

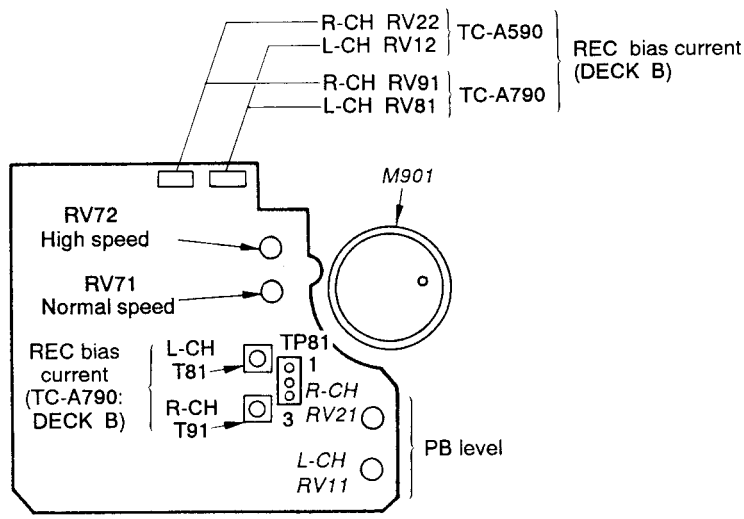
Adjustable: − 30.0 ± 0.5 dB (0.0231 − 0.026 V)
(See page 6 for Adjusting Parts Location)

• **Adjusting Parts Location**

MAIN BOARD (Component Side)



AUDIO BOARD (Conductor Side)



SECTION 4
DIAGRAMS

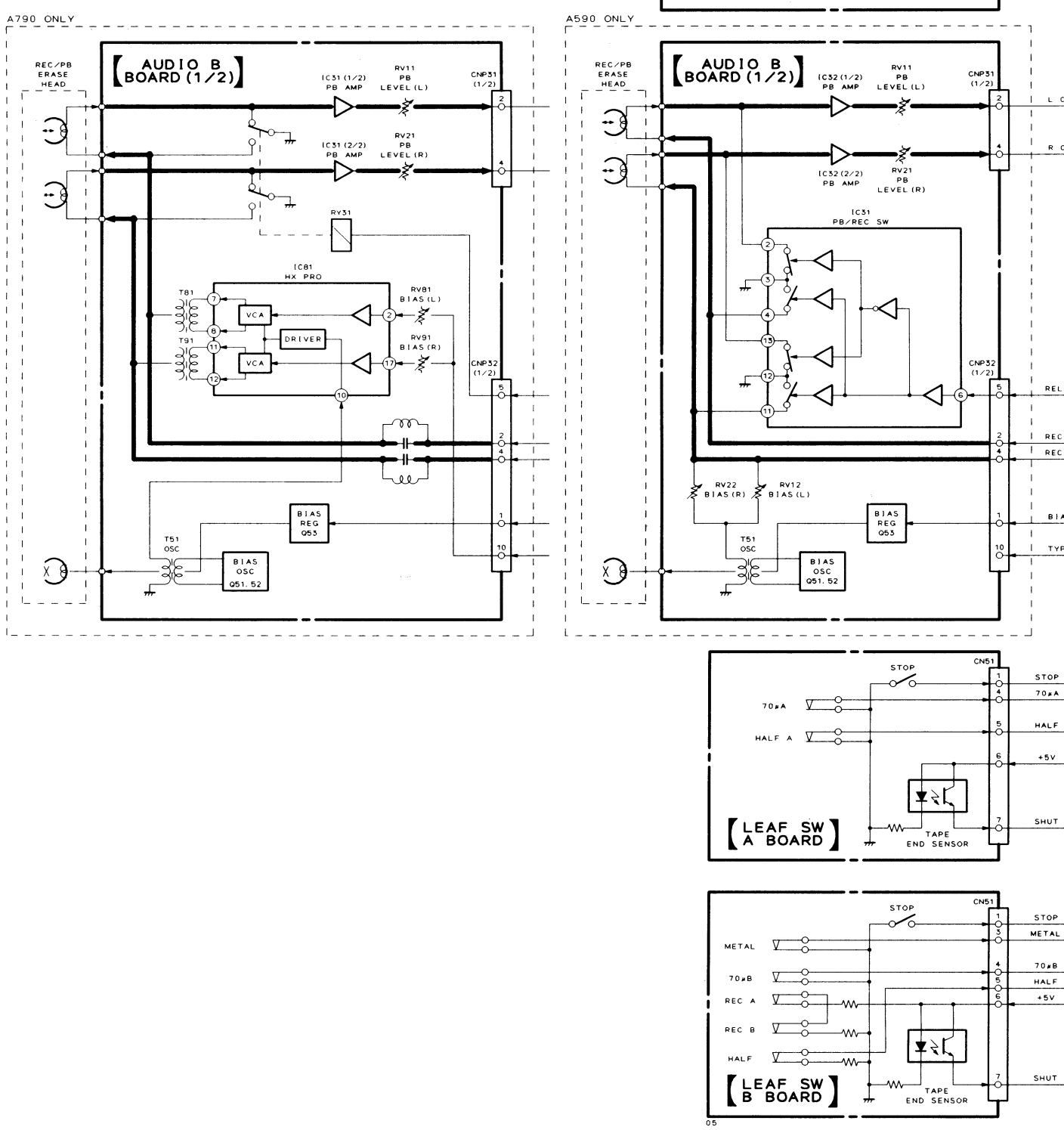
4-1. IC PIN FUNCTION DESCRIPTION
MAIN BOARD IC801 M38172M4-082FP

Pin No.	Pin Name	I/O	Description	Double Function
1	K4	I	8 bit input/output port with the similar function to P2 CMOS input level and CMOS3 state output form.	A-D converter input terminal.
2	K3	I		
3	K2	I		
4	K1	I		
5	REEL 2 (A)	O	8 bit input/output port with the similar function to P2. CMOS input level and N channel open drain output form. The input voltage to this port should be between 0V and VCC.	Functional terminal of serial I/02.
6	REEL 3 (A)	O		
7	REEL 1 (A)	O		
8	REEL 1 (B)	O		
9	REEL 3 (B)	O	8 bit input/output port with the similar function to P2. CMOS input level and N channel open drain output form. The input voltage to this port should be between 0V and VCC.	Functional terminal of serial I/01.
10	REEL 2 (B)	O		
11	AMS IN	I		
12	STOP SW (A)	I		
13	STOP SW (B)	I	6 bit input/output port with the similar function to P2. CMOS input level and CMOS3 state output form.	
14	HALF (A)	I		
15	POWER IN	I	6 bit input/output port with the similar function to P2. CMOS input level and CMOS3 state output form.	Event counter input terminal.
16	METAL	I		
17	S REEL IN (A)	I	6 bit input/output port with the similar function to P2. CMOS input level and CMOS3 state output form.	PWM output terminal.
18	VOL OUT	O		
19	S REEL IN (B)	I	7 bit input/output port with the similar function to P2. CMOS input level and CMOS3 state output form.	Timer output terminal.
20	S REEL OUT (A)	O		
21	S REEL OUT (B)	O	7 bit input/output port with the similar function to P2. CMOS input level and CMOS3 state output form.	
22	L MUTE	O	7 bit input/output port with the similar function to P2. CMOS input level and CMOS3 state output form.	Interrupting input terminal.
23	R MUTE	O		
24	REC/PB	O		
25	OUT AUB	O		
26	IN AUB	I	1 bit CMOS input port.	Interrupting input terminal.
27	RESET	I	Reset status is set when this terminal is at "L" for more than 2 μs. However, inner reset is canceled for the stability of XCIN-XCOUT oscilliation in the slow velocity operation start mode.	
28	XC IN	–	Not used.	
29	XC OUT	–	Not used.	
30	X IN	I	Input/output terminal of main clock generation circuit which connects ceramic resonator or crystal oscilliator between XIN and XOUT. Connect clock oscilliation point to XIN to leave XOUT open in the use of outer clock.	
31	X OUT	O		
32	VSS	–	GND	
33	PASS	O	8 bit input/output port. Input/output can be selected by bit unit in certain program. Input mode in reset. TTL input level and CMOS3 state output form.	
34	PB A/B	O		
35	X1/X2	O		
36	1599 MUTE	O		
37	BIAS	O		
38	RELAY	O		
39	DOLBY B/C	O		
40	DOLBY ON/OFF	O		

Pin No.	Pin Name	I/O	Descriptio
41		–	Not used.
42	7G	O	8 bit output port with the similar fu
43	6G	O	
44	5G	O	
45	4G	O	
46	3G	O	
47	2G	O	
48	1G	O	
49	P16	O	8 bit output port and high level pre open drain output. Pull-down resis VEE terminal. "L" level in reset.
50	P15	O	
51	P14	O	
52	P13	O	
53	P12	O	
54	P11	O	
55	P10	O	
56	P9	O	
57	P8	O	8 bit output port with the similar fu
58	P7	O	
59	P6	O	
60	P5	O	
61	P4	O	
62	P3	O	
63	P2	O	
64	P1	O	
65		–	Not used.
66		–	Not used.
67	AMS GAIN SELECT	O	8 bit input/output port with the CMOS input level and high lev channel open drain output form resistance is not built in.
68	C MOT H/L	O	
69	C MOT (B)	O	
70	C MOT (A)	O	
71	VERSION	I	
72	TEST	I	
73	VCC	–	+5 V
74	VEE	–	Apply voltage supplying to pull-do
75	AVSS	–	GND input terminal of A-D conve
76	VREF	–	Reference voltage input terminal o
77	VOL DATE	I	8 bit input/output port with the CMOS input level and CMOS3 sta
78	HALF (B)	I	
79	METER (R)	I	
80	METER (L)	I	

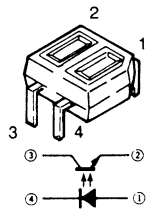
Description	Double Function
the similar function to P0.	FLD automatic indication terminal.
igh level pressure-resistant P channel ll-down resistance is built in between vel in reset.	FLD automatic indication terminal.
the similar function to P0.	FLD automatic indication terminal.
ort with the similar function to P2 nd high level pressure-resistance P output form. However, pull-down in.	FLD automatic indication terminal.
ing to pull-down resistance of port P0, P1, P2 and P3.	
f A-D converter. Add the same electric potential as VSS.	
ut terminal of A-D converter.	
ort with the similar function to P2 d CMOS3 state output form.	FLD automatic indication terminal.

4-2. BLOCK DIAGRAM

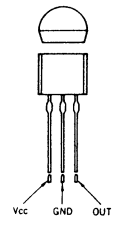


• Semiconductor Lead Layouts

NJL5165K-B (H1)

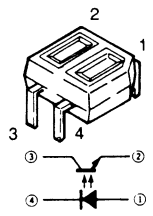


PST600E-T

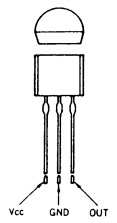


• Semiconductor Lead Layouts

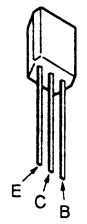
NJL5165K-B (H1)



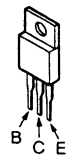
PST600E-T



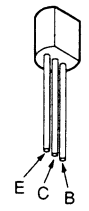
DTA114ES
DTA144ES
DTC114ES
DTC144ES
2SA1317-STU
2SC2603-EF
2SD2144S



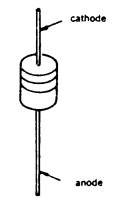
2SB1094-LK
2SD2012



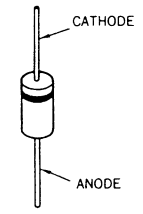
2SC403SP-51
2SD1387



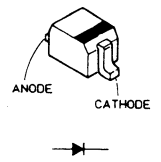
HZS6A1L
HZS9A2L
UZL-7L2
10E2N



1N4148M



1SE352



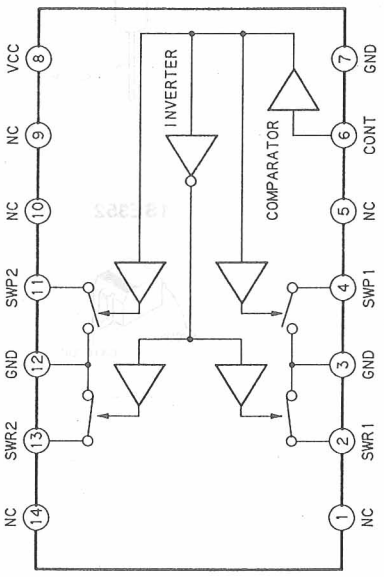
【MAIN BOARD】

CN504 (1/2)
IC304 (1/2) BUFF AMP
IC304 (2/2) BUFF AMP
IC301 VCA
IC302 DOLBY NR
RV301 REC LEVEL (L)
RV351 REC LEVEL (R)
IC303 REC
IC401 (1/2) PASS AMP
IC401 (2/2) PASS AMP
IC402 LINE SELECT
SWITCH Q301
SWITCH Q809
SWITCH Q351
L MUTE Q402
R MUTE Q403
LINE MUTE Q401
LINE (L)
LINE (R)
To SYSTEM CONTROL
RV401 REC MONITOR L/R BALANCE
A DECK TYPE 2.4 ON
SWITCH Q303, 304
CN501 (1/2)
CN502 (1/2)
IC801 MUSTER μCOM
REC/PB SWITCH Q103
DOLBY B/C Q101
DOLBY ON/OFF Q102
AMS AMP Q305
IC403 L.P.F
RELAY DRIVE Q808
IC804 BIAS SW
SWITCH Q810
SWITCH Q811
SWITCH Q812
X801 4MHz
IC802 RESET
Q807 AUB
CN503 (1/2)
CN505
CN506
+5V REG Q703, 704
+7.5V REG IC701 Q701
-7.5V REG IC701 Q702
REG SWITCH Q306
RECT D701-704
MOTOR DRIVE Q805
MOTOR DRIVE Q803
MOTOR DRIVE Q804
IC803 MOTOR DRIVE
CN801
NO801
S501-513 S518-520 FUNCTION KEY
【KEY SW BOARD】
CN802
CN507
S514-517 S521, 522 FUNCTION KEY
【FL BOARD】
FL501 FLUORESCENT DISPLAY
RV501 REC VOL
CN701
CN501 (2/2)
CN502 (2/2)
CNP31 (2/2)
NORMAL/HIGH SPEED SW Q71
SPEED ADJ RV71 RV72
M1001-A CAPSTAN
M1001-B CAPSTAN
M REEL
【AUDIO A BOARD (2/2)】
【AUDIO B BOARD (2/2)】

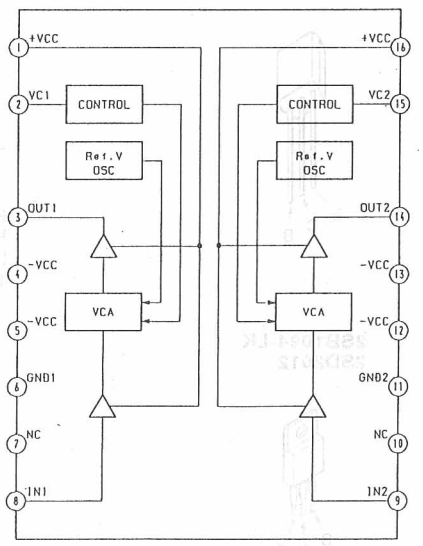
4-3. SCHEMATIC DIAGRAM

- IC Block Diagrams

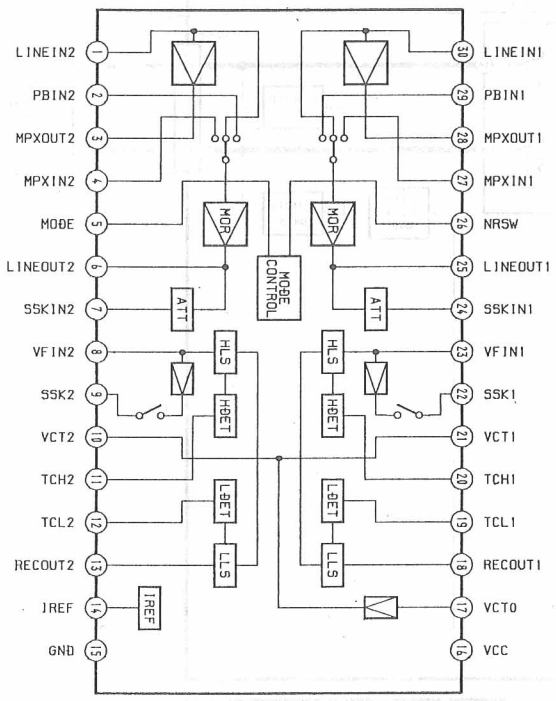
TC-A590 AUDIO (B) BOARD IC31 μPC1330GR



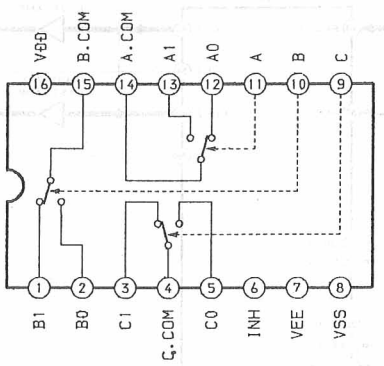
MAIN BOARD IC301 M5283P



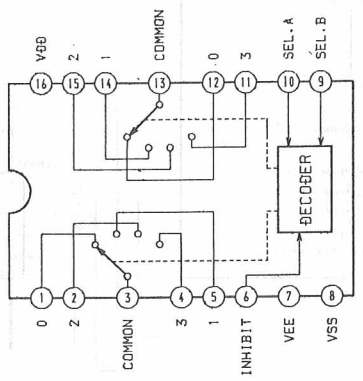
MAIN BOARD IC302 CXA1332M



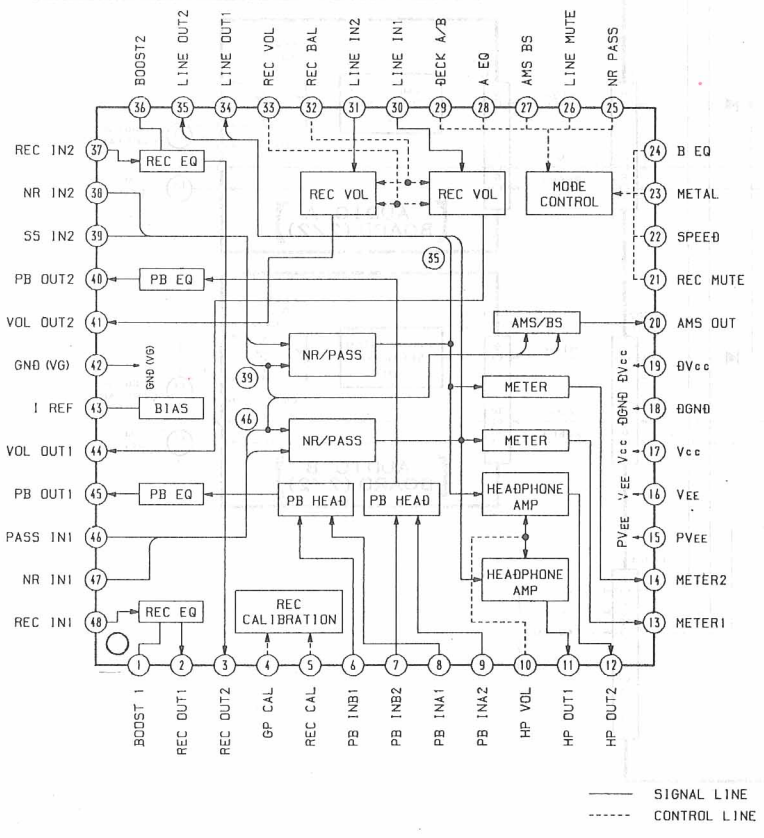
MAIN BOARD IC402 MC14053BCP

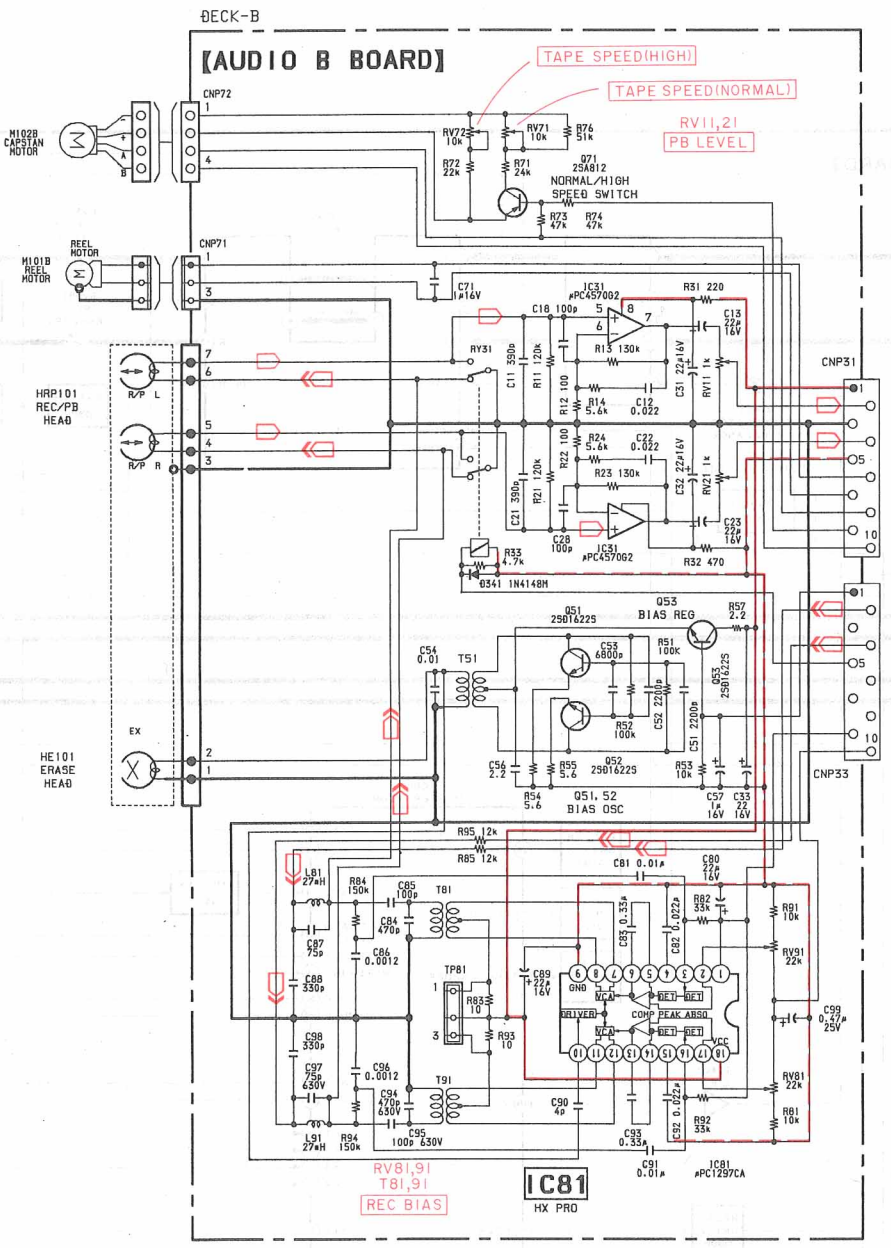


MAIN BOARD IC804 MC14052BCP



MAIN BOARD IC303 CXA1599Q





DECK-A

[AUDIO A BOARD]

RV71,72 TAPE SPEED

RV11,21 PB LEVEL

M102A CAPSTAN MOTOR

M101A REEL MOTOR

HRP101 PB HEAD

IC31 PB AMP

DECK-B

[AUDIO B BOARD]

M102B CAPSTAN MOTOR

M101B REEL MOTOR

HE101 ERASE HEAD

IC32 PB AMP

IC31 REC/PB SWITCH

RV12,22 REC BIAS

Q51,52 BIAS OSC

Q53 BIAS REG

[MAIN BOARD]

IC304 BUFF AMP

IC301 VCA

REC MONI BAL

IC402 LINE SELECT

IC804 BIAS SWITCH

IC403 L.P.F

IC802 RESET

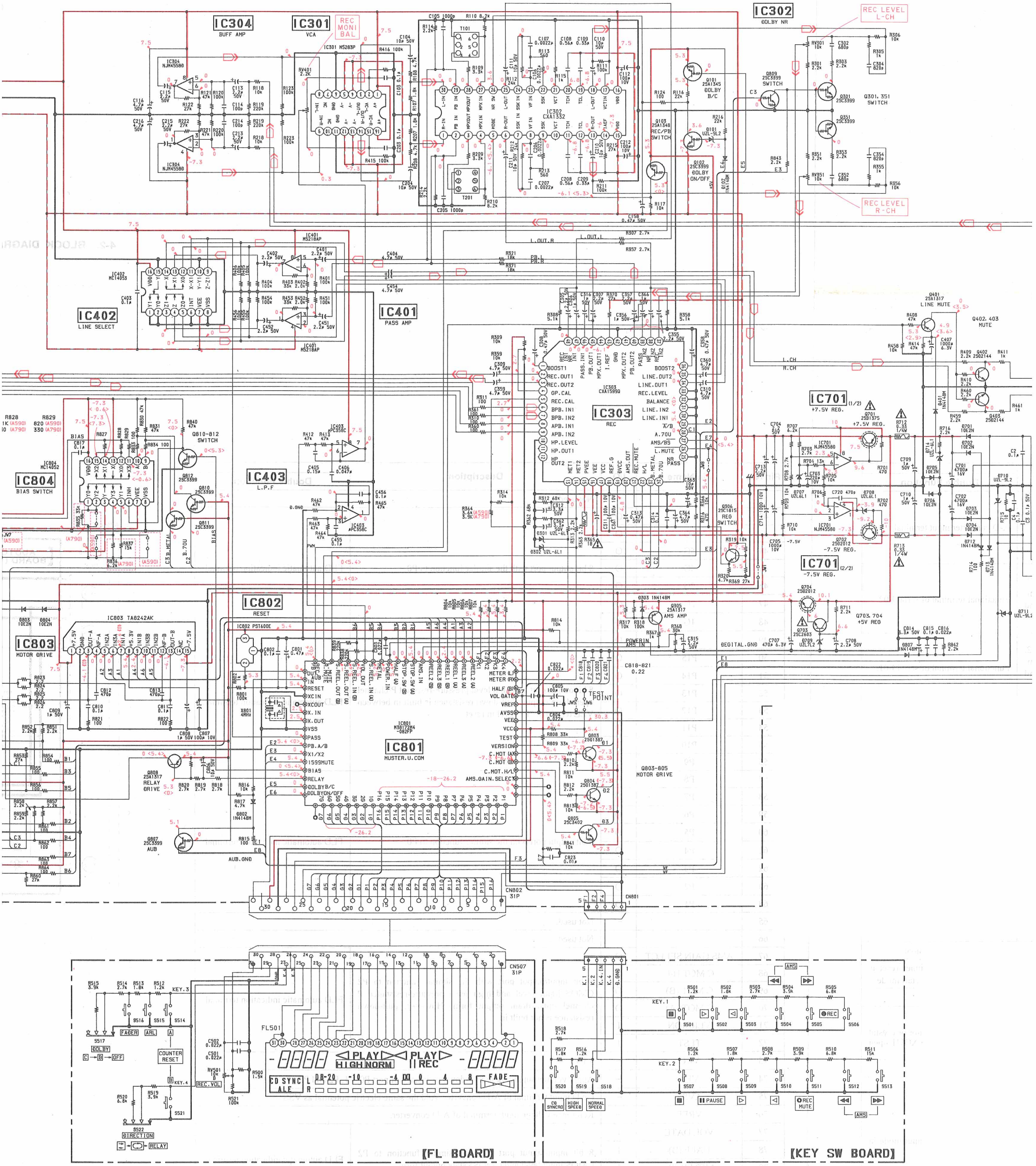
IC803 MOTOR DRIVE

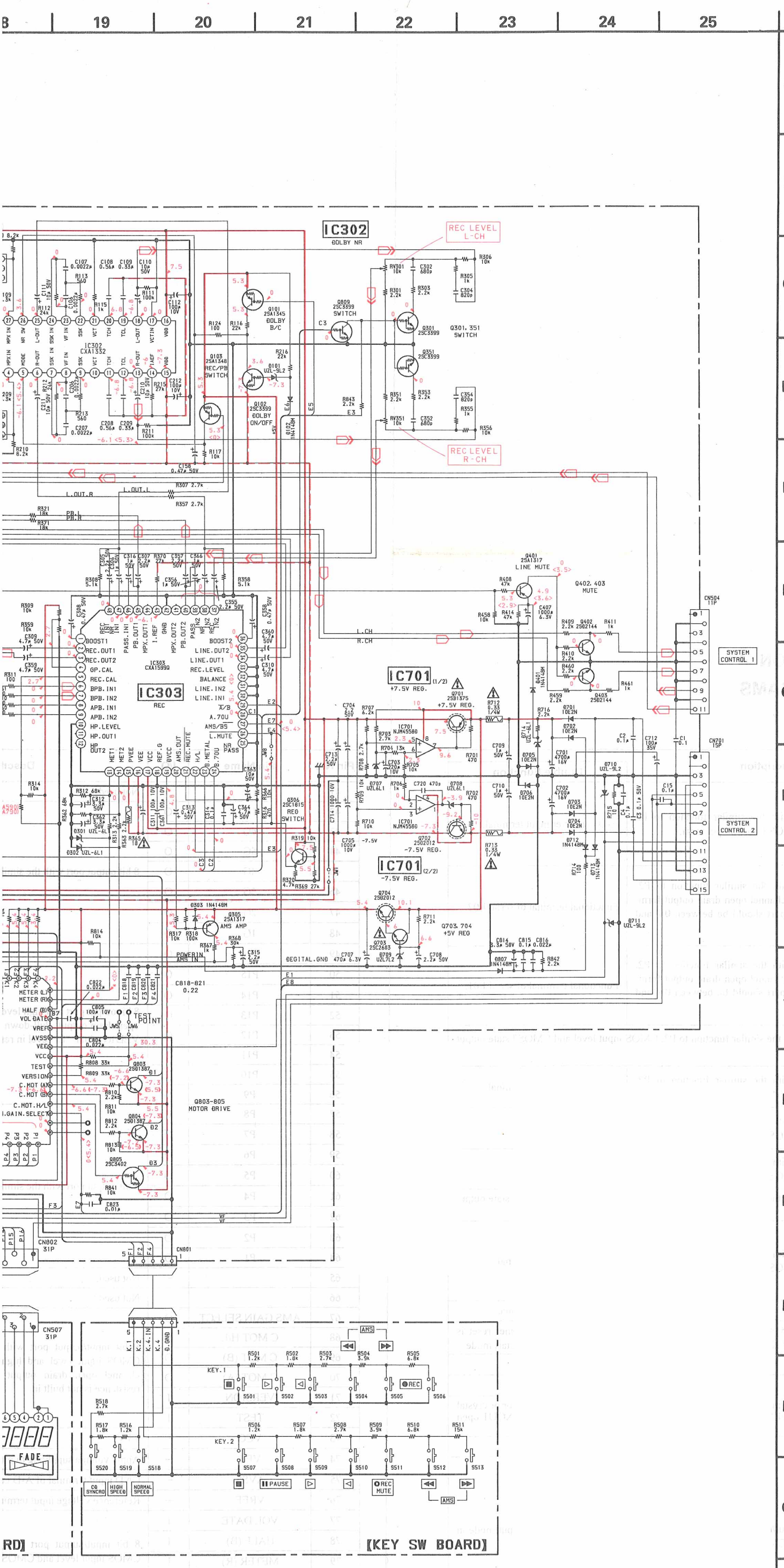
[LEAF SW (A) BOARD]

IC81 TAPE END SENSOR

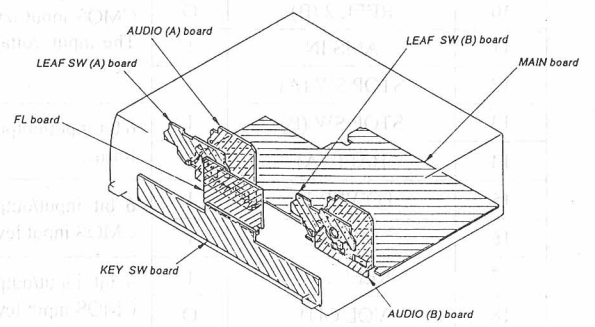
[LEAF SW (B) BOARD]

13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24





● Circuit Boards Location



Note on Printed Wiring Board:

- : indicates side identified with part number.
- : Through hole.
- : Pattern of the rear side.
- : Pattern from the side which enables seeing.

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

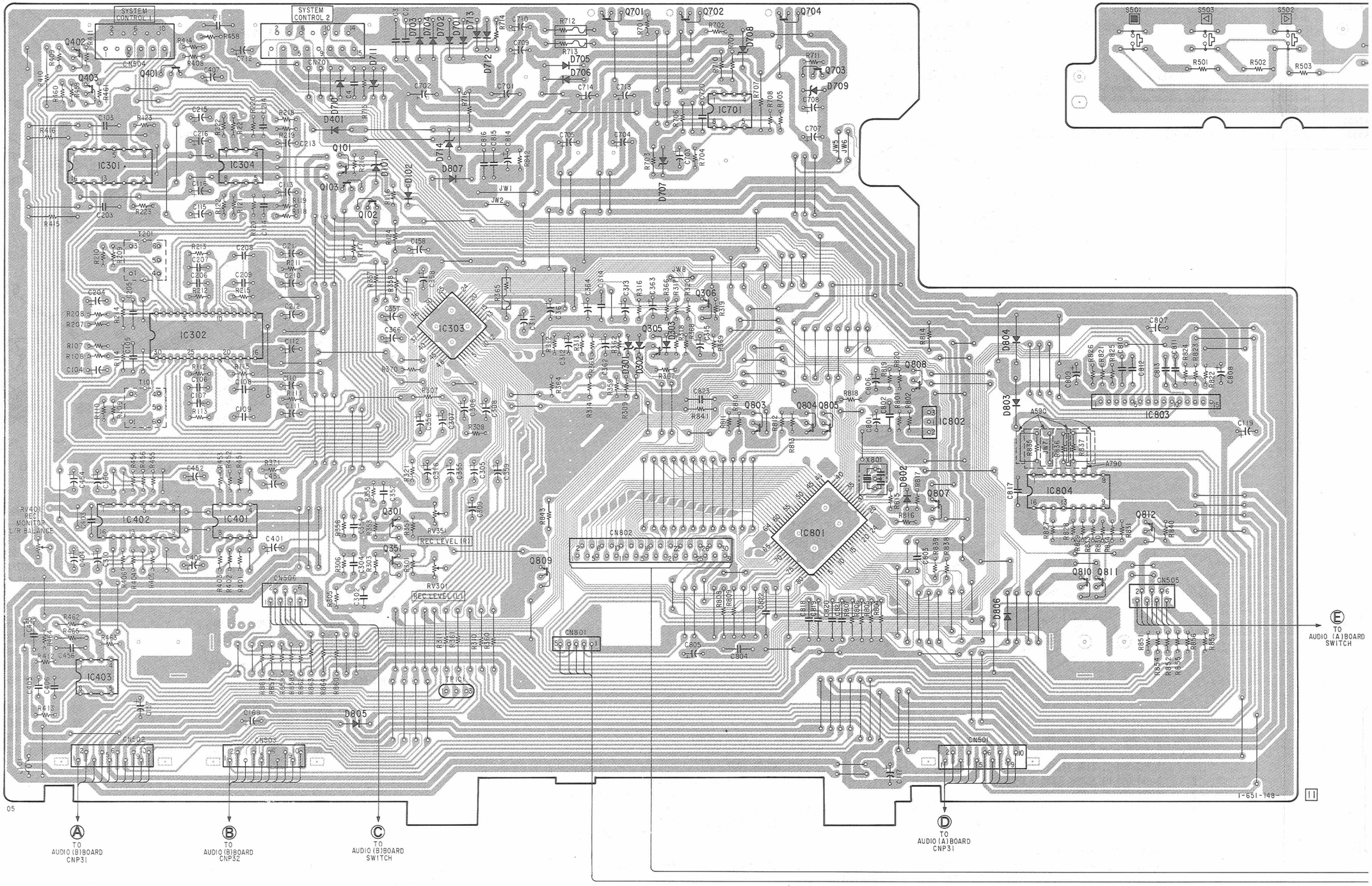
- : B + Line.
- : B − Line.
- : panel designation.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : PLAY (DECK A)
  - 《 》: PLAY (DECK B)
  - < > : REC (DECK B)
  - * : Impossible to measure
- Voltages are taken with a VOM (10 MΩ/V).
- Signal path.
  - : PB (DECK B)
  - : REC (DECK B)

4-4. MAIN SECTION PRINTED WIRING BOARDS

• See page 10 for Semiconductor Lead Layouts and pages 19 and 20 for MD section Printed Wiring Boards.

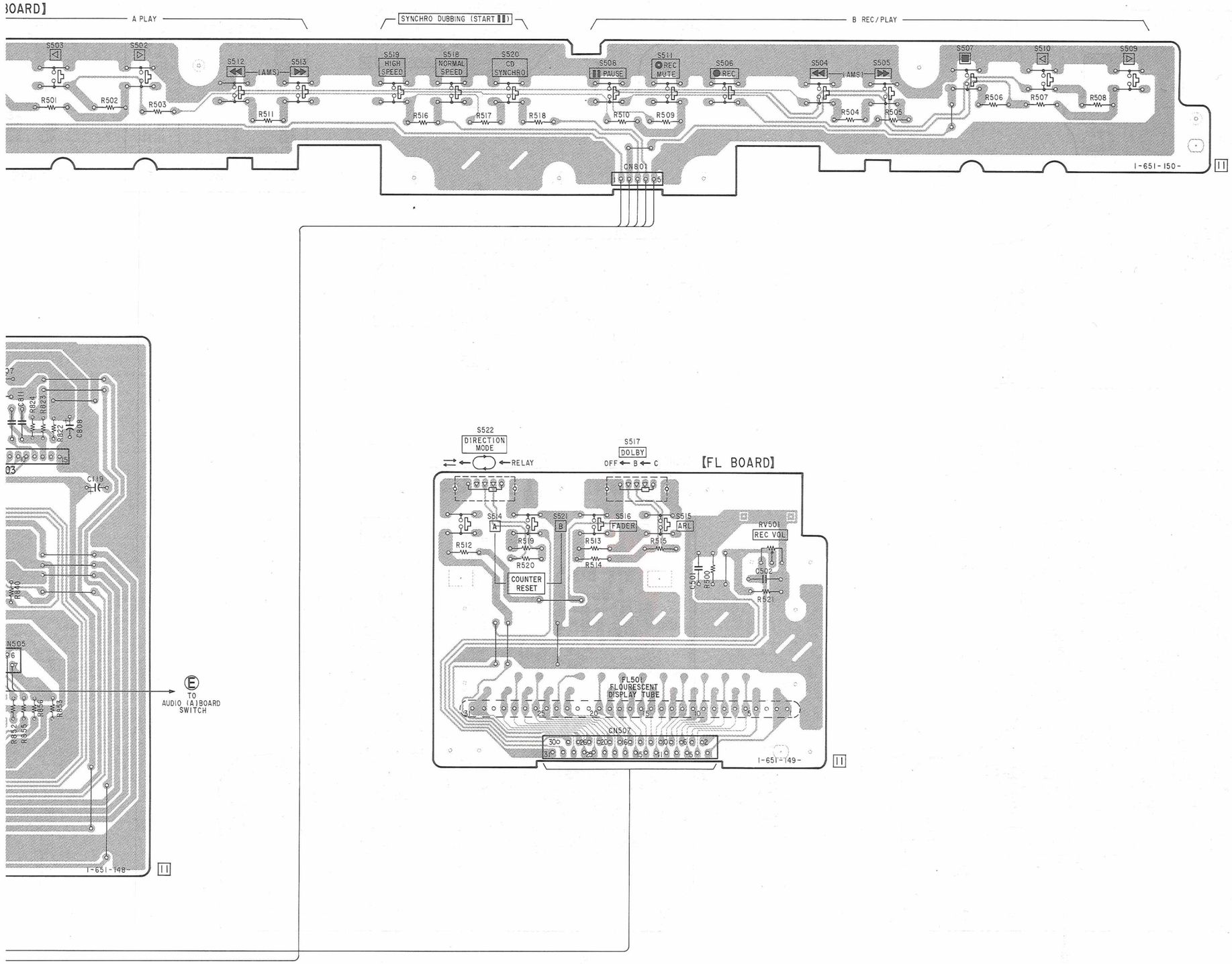
【MAIN BOARD】

【KEY SW BOARD】



13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

BOARD】

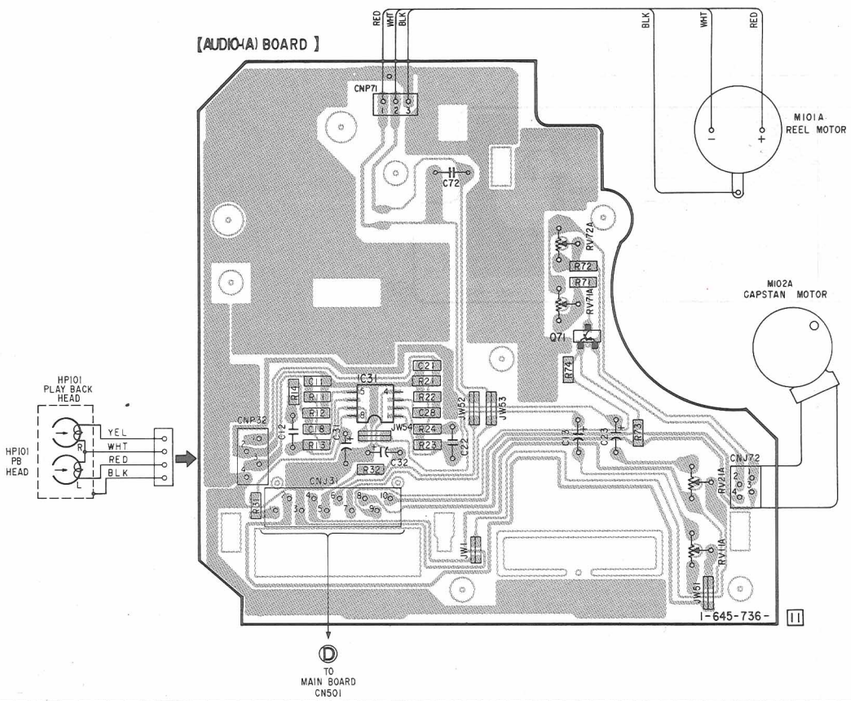


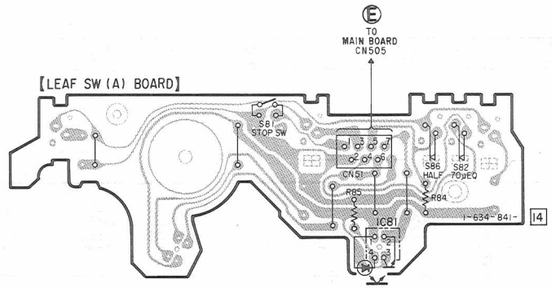
• Semiconductor Location

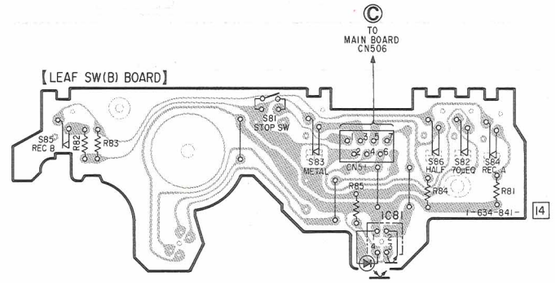
Ref. No.	Location
D101	C-5
D102	C-5
D301	E-7
D302	E-7
D303	E-8
D401	C-4
D701	B-5
D702	B-5
D703	B-5
D704	B-5
D705	B-7
D706	B-7
D707	C-8
D708	B-8
D709	B-9
D710	B-4
D711	B-5
D712	B-6
D713	B-6
D714	C-5
D802	F-10
D803	E-11
D804	E-11
D805	I-4
D806	G-11
D807	C-5
IC301	C-2
IC302	E-3
IC303	E-5
IC304	C-3
IC401	F-3
IC402	F-2
IC403	F-2
IC701	B-8
IC801	G-9
IC802	E-10
IC803	E-13
IC804	F-12
Q101	C-4
Q102	C-5
Q103	C-4
Q301	G-5
Q305	E-8
Q306	D-8
Q351	G-5
Q401	B-2
Q402	B-2
Q403	B-2
Q701	A-7
Q702	A-8
Q703	B-9
Q704	A-9
Q803	E-9
Q804	E-9
Q805	E-9
Q807	F-10
Q808	E-10
Q809	G-6
Q810	G-12
Q811	G-12
Q812	G-13

4-5. MD SECTION PRINTED WIRING BOARDS

• See page 10 for Semiconductor Lead Layouts and page 16 for Notes.

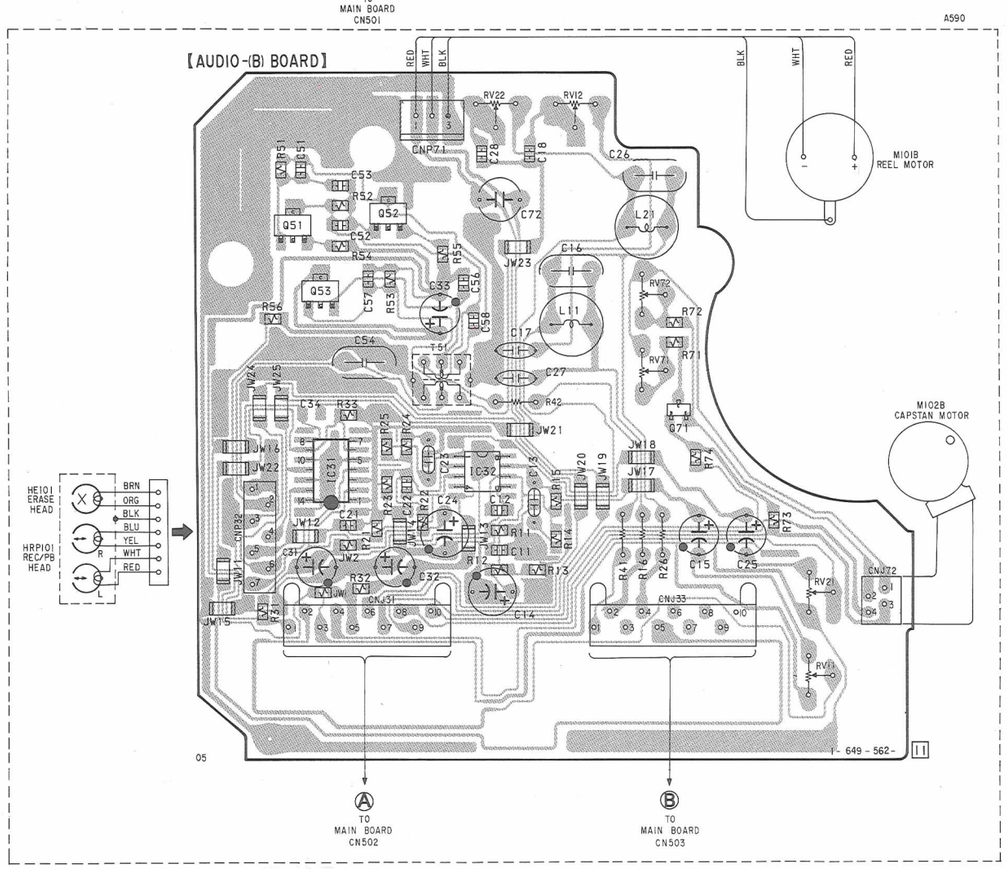


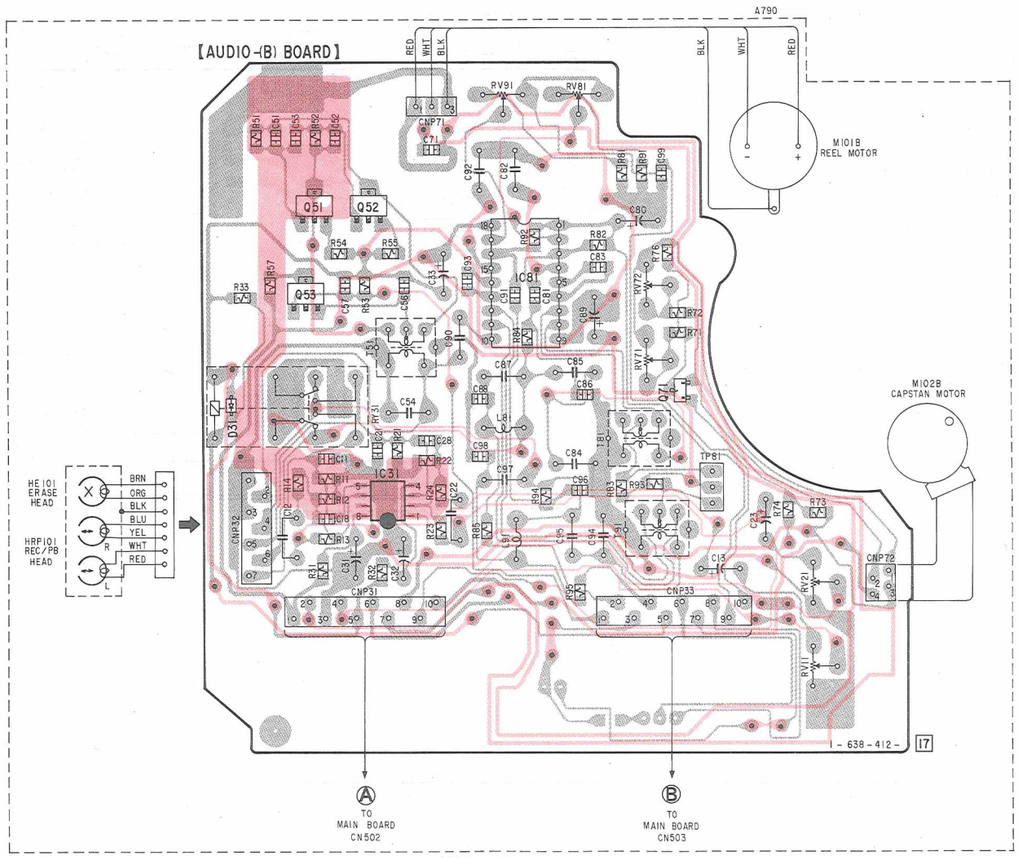




- **Semiconductor Location**

Ref. No.	Location
D31	J-10
IC31 (AUDIO A)	D-4
IC31 (AUDIO B A790)	J-11
IC31 (AUDIO B A590)	J-3
IC32	J-4
IC81	I-12
IC81 (SW A)	C-13
IC81 (SW B)	F-13
Q51	H-11
Q52	H-11
Q53	H-11
Q71 (AUDIO A)	D-5
Q71 (AUDIO B A790)	I-14
Q71 (AUDIO B A590)	J-6





NOTE:

- -XX and -X may have s one.
- Color Ind Example: KNOB, BA
- Abbreviatio AE : AEI EE : East AU : Aus

(1) CASE

Ref. No.

1
2
* 3
* 4
* 4
* 4
* 4

uctor

lo.	Location
	J-10
A)	D-4
B A790)	J-11
B A590)	J-3
	J-4
	I-12
	C-13
	F-13
	H-11
	H-11
	H-11
)	D-5
A790)	I-14
A590)	J-6

M102B
CAPSTAN MOTOR

17

SECTION 5
EXPLODED VIEWS

NOTE:

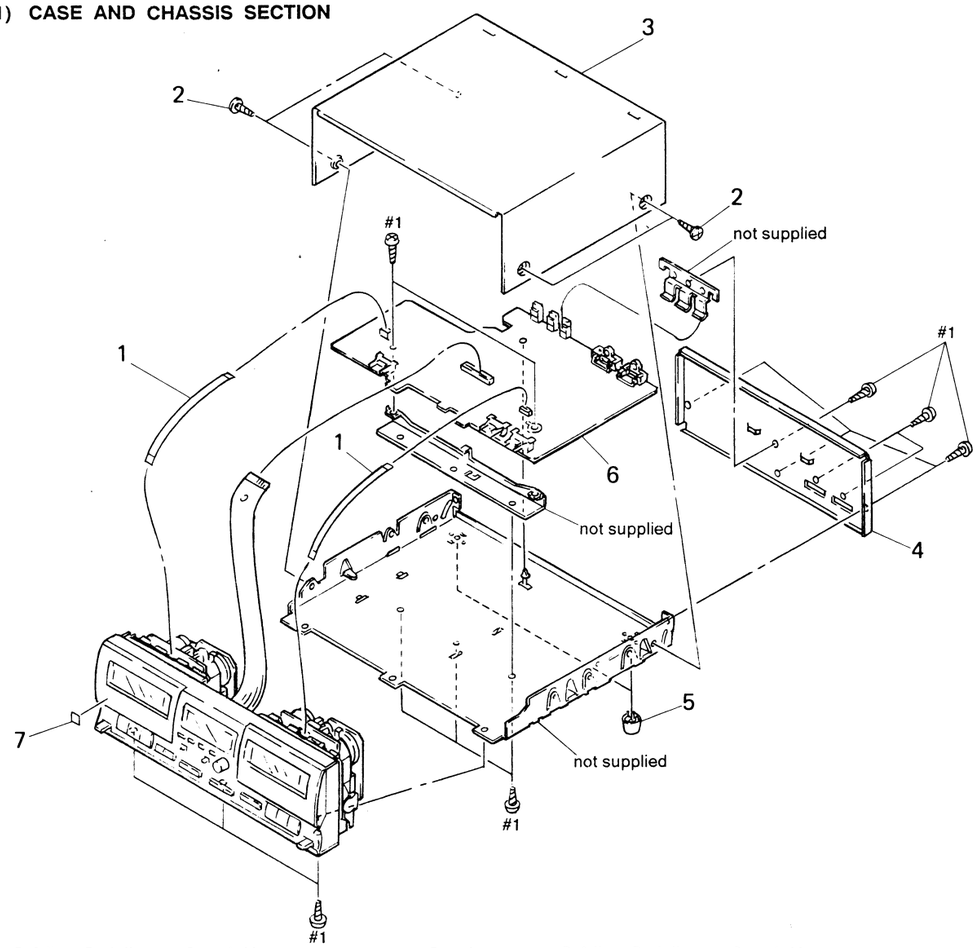
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Abbreviations

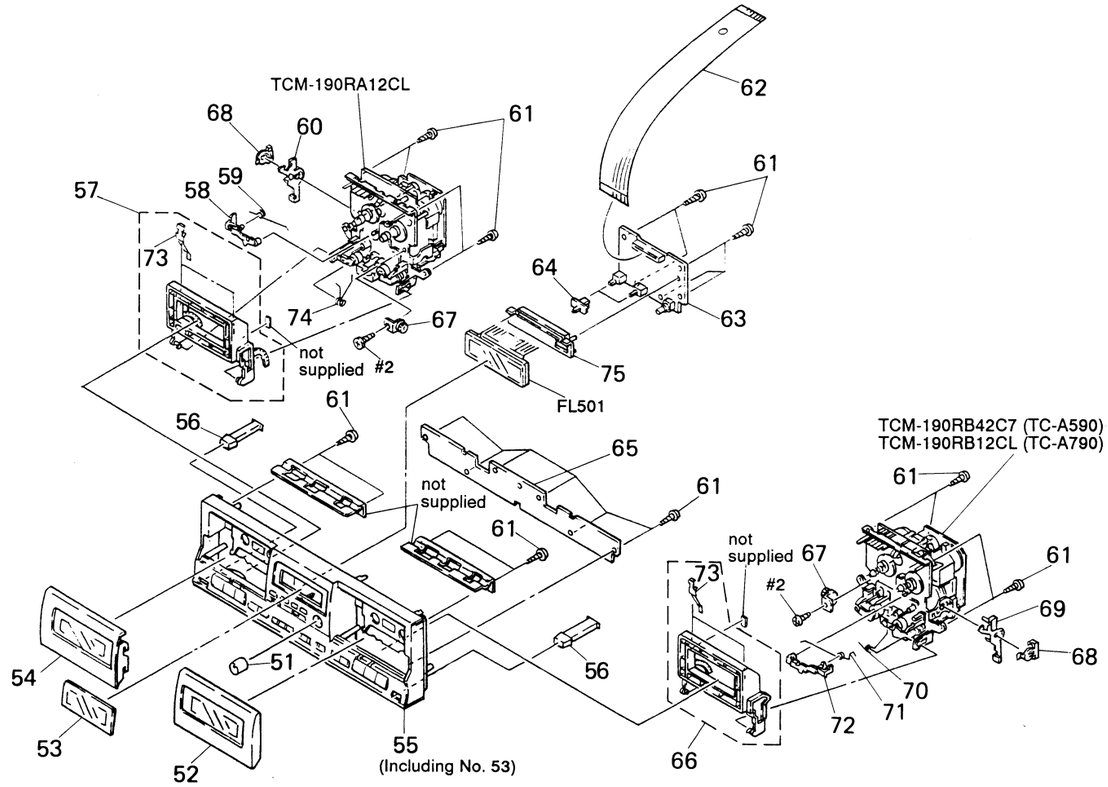
AE	: AEP Model	EA	: Saudi Arabia Model	SP	: Singapore Model
EE	: East European Model	MX	: Mexican Model	IT	: Italian Model
AU	: Australian Model	MY	: Malaysia Model	G	: German Model

(1) CASE AND CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	1-765-384-11	WIRE (FLAT TYPE) (7 CORE)	
2	3-363-099-01	SCREW (CASE 3 TP2)	
* 3	4-939-803-71	CASE	
* 4	3-911-036-01	PANEL, BACK (A590:AE, EE, E, IT, AU, EA, MX, MY, PX, SP, CIS)	
* 4	3-911-036-11	PANEL, BACK (A590:G)	
* 4	3-911-036-21	PANEL, BACK (A790:AE, E, IT, AU, EA, MX, MY, SP, CIS)	
* 4	3-911-036-31	PANEL, BACK (A790:G)	
5	4-931-169-01	FOOT	
* 6	A-2007-188-A	MAIN BOARD, COMPLETE (A590:AE, EE, E, AU, EA, MX, MY, PX, SP, CIS)	
* 6	A-2007-190-A	MAIN BOARD, COMPLETE (A590:G, IT)	
* 6	A-2007-217-A	MAIN BOARD, COMPLETE (A790:AE, E, AU, EA, MX, MY, SP, CIS)	
* 6	A-2007-220-A	MAIN BOARD, COMPLETE (A790:G, IT)	
7	3-703-710-41	STICKER, SONY SYMBOL (12)	

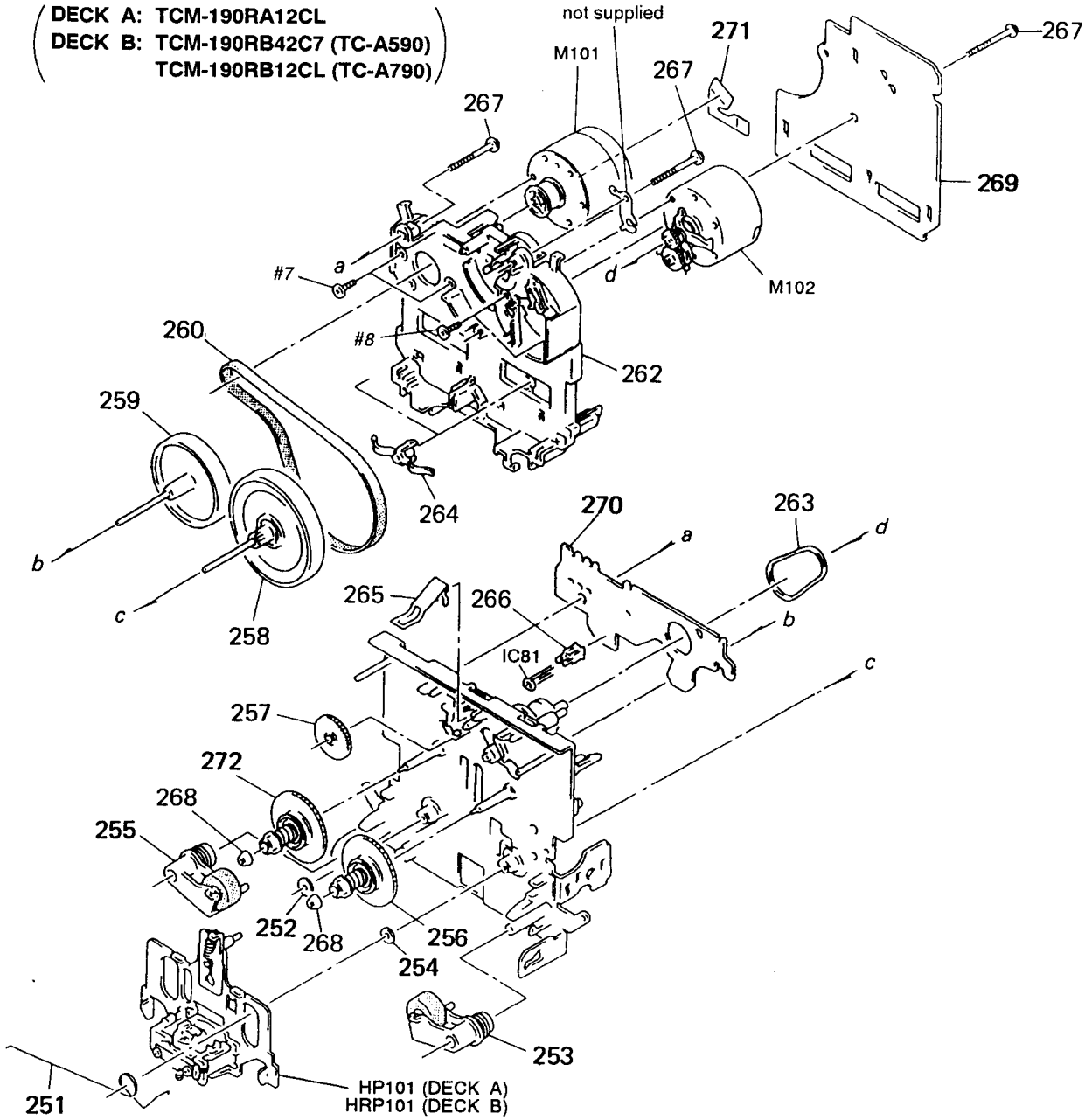
(2) FRONT PANEL ASSEMBLY SECTION



Ref. No.	Part No.	Description	Remark
51	4-950-651-21	KNOB (DIA. 16), ROUND	
52	X-3367-972-1	LID (B) ASSY, CASSETTE (A590)	
52	X-3368-090-1	LID (B) ASSY, CASSETTE (A790)	
53	3-911-033-02	WINDOW (PANEL)	
54	X-3367-971-1	LID (A) ASSY, CASSETTE	
55	X-3367-970-2	PANEL ASSY, FRONT (A590)	
55	X-3368-089-1	PANEL ASSY, FRONT (A790)	
56	3-911-029-01	BUTTON (EJECT)	
57	A-4325-163-A	HOLDER (L) ASSY, CASSETTE	
58	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
59	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
* 60	3-363-638-01	LEVER (LOCK LEVER L)	
61	4-951-620-01	SCREW (2.6X8), +BVTP	
62	1-765-079-11	WIRE (FLAT TYPE) (31 CORE)	
* 63	A-2007-191-A	FL BOARD, COMPLETE (A590)	
64	3-911-034-01	KNOB (SLIDE)	
* 65	A-2007-192-A	KEY SW BOARD, COMPLETE (A590)	
66	A-4325-164-A	HOLDER (R) ASSY, CASSETTE	
67	3-354-963-01	DAMPER	
68	3-354-957-01	JOINT (LOCK LEVER)	
* 69	3-363-639-01	LEVER (LOCK LEVER R)	
70	3-354-960-01	SPRING (LOADING R), TORSION	
71	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
72	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
73	3-308-823-11	DETENT, CASSETTE	
74	3-354-959-01	SPRING (LOADING L), TORSION	
75	3-911-035-01	HOLDER (FL TUBE)	
FL501	1-517-277-11	INDICATOR TUBE, FLUORESCENT	

(3) MECHANISM SECTION-1

DECK A: TCM-190RA12CL
DECK B: TCM-190RB42C7 (TC-A590)
TCM-190RB12CL (TC-A790)

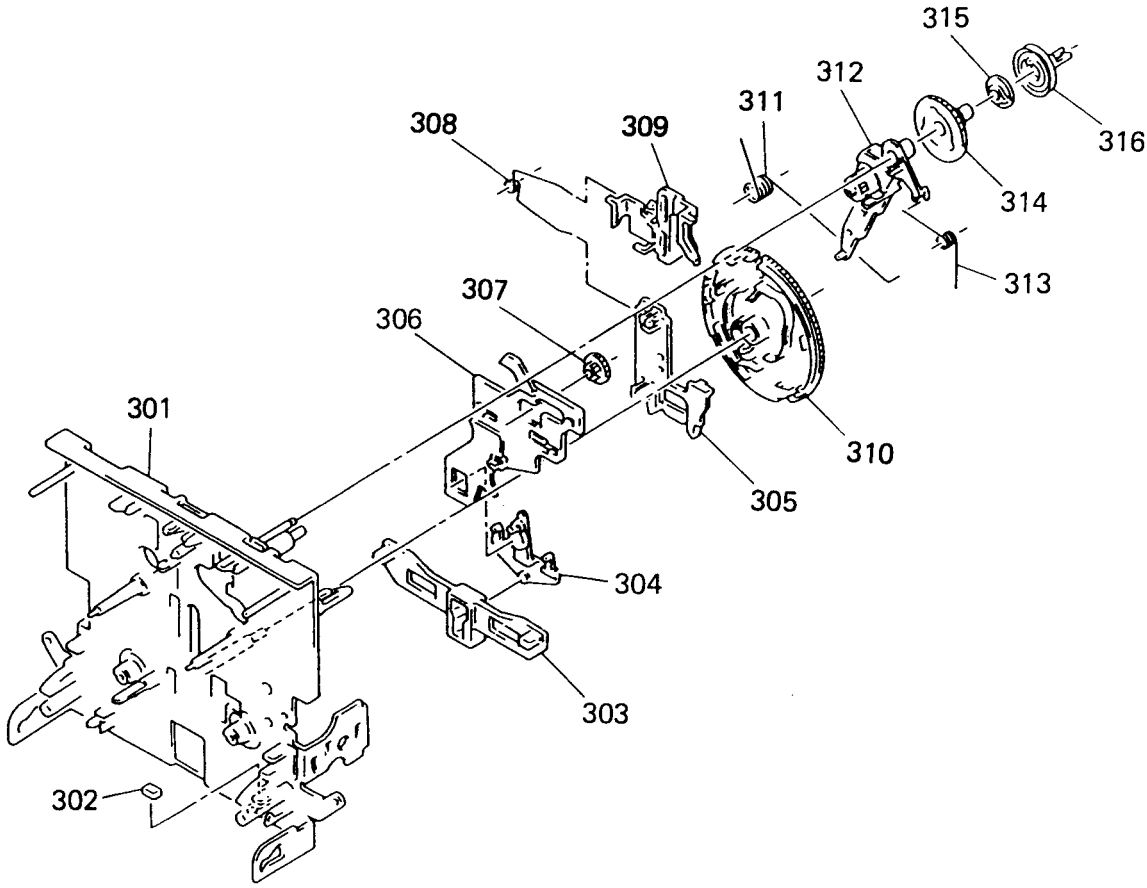


Ref. No.	Part No.	Description	Remark
251	3-359-455-01	SPRING, TORSION	
252	3-356-714-01	WASHER	
253	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
254	3-356-713-01	WASHER	
255	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
256	X-3359-404-1	TABLE (A) ASSY, REEL	
257	3-359-424-01	GEAR (REV GEAR)	
258	X-3359-406-1	FLYWHEEL (FWD) ASSY	
259	X-3359-410-1	FLYWHEEL (REV) ASSY	
260	3-359-417-01	BELT (FLAT), CAPSTAN	
* 262	3-359-436-01	BASE (THRUST RETAINER), FITTING	
263	3-359-466-01	BELT (FR), SQUARE	
264	3-575-321-00	RETAINER, THRUST, CAPSTAN	
265	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
266	3-343-419-01	HOLDER (S SENSOR A)	

Ref. No.	Part No.	Description	Remark
267	3-359-414-01	SCREW (+PTPWH 2X23)	
268	3-362-308-01	CAP (REEL)	
* 269	A-2006-609-A	AUDIO BOARD, COMPLETE (DECK A)	
* 269	A-2006-828-A	AUDIO BOARD, (RB12CJ) COMPLETE	(A790:DECK B)
* 269	A-2007-102-A	AUDIO BOARD, (RB42A) COMPLETE	(A590:DECK B)
* 270	1-634-841-14	SW (A) BOARD	
271	1-638-983-11	MOTOR FLEXIBLE BOARD	
272	X-3362-078-1	TABLE ASSY, REEL	
HP101	A-2003-838-F	DECK ASSY, HEAD (DECK A)	
HRP101	A-2004-190-F	DECK ASSY, HEAD (DECK B)	
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
M101	X-3365-377-1	MOTOR ASSY (CAPSTAN)	
M102	X-3363-501-1	MOTOR ASSY (REEL)	

(4) MECHANISM SECTION-2

(DECK A: TCM-190RA12CL
DECK B: TCM-190RB42C7 (TC-A590)
TCM-190RB12CL (TC-A790))



Ref. No.	Part No.	Description	Remark
301	X-3359-415-1	CHASSIS ASSY, MECHANICAL	
301	X-3363-790-1	CHASSIS ASSY, MECHANICAL (A590:DECK B)	
302	3-359-469-01	SPACER	
* 303	3-359-425-01	SLIDER (REVERSE SLIDER)	
304	3-359-426-01	LEVER (REVERSE LEVER)	
* 305	3-359-427-01	SLIDER (LEVERSE SLIDER)	
* 306	3-359-415-01	SLIDER (TRIGGER SLIDER)	
307	3-359-448-01	GEAR (TRIGGER)	
308	3-359-454-01	SPRING, TORSION	
309	3-359-429-01	SLIDER (BRAKE PLATE)	
310	3-359-420-01	GEAR (CAM GEAR)	
311	3-359-456-01	SPRING(TRIGGER SPRING), TORSION	
312	X-3359-405-1	LEVER (FR ARM) ASSY	
313	3-359-453-01	SPRING (FR ARM), TORSION	
314	3-359-419-01	GEAR (FR GEAR)	
315	3-359-421-01	CLUTCH (REEL DISK)	
316	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 6
ELECTRICAL PARTS LIST

AUDIO (A) | AUDIO (B) (A790)

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS uF: μF
- COILS uH: μH
- Abbreviation
  AE: AEP EE: East European AU: Australian EA: Saudi Aradia MX: Mexican
  MY: Malaysia SP: Singapore IT: Italian G: German

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	A-2006-609-A	AUDIO (A) BOARD, COMPLETE (DECK A)			
		**********			
		< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
CNJ72	1-764-902-11	CONNECTOR, FFC/FPC 4P			
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2			
		< JUMPER RESISTOR >			
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW51	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW52	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW53	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW54	1-216-296-91	METAL GLAZE	0	5%	1/8W
		< TRANSISTOR >			
Q71	8-729-602-36	TRANSISTOR 2SA1602			
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV11	1-241-761-11	RES, ADJ, CARBON	1K		
RV21	1-241-761-11	RES, ADJ, CARBON	1K		
RV71	1-241-630-11	RES, ADJ, CARBON	10K		
RV72	1-241-630-11	RES, ADJ, CARBON	10K		
**********					
*	A-2006-828-A	AUDIO BOARD (B) COMPLTE (A790:DECK B)			
		**********			
		< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C52	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C53	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C54	1-136-601-11	FILM	0.01uF	5%	630V

AUDIO (B) (A790)

Ref. No.	Part No.	Description			Remark
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C71	1-164-346-11	CERAMIC CHIP	1uF		16V
C80	1-124-234-00	ELECT	22uF	20%	16V
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C82	1-136-157-00	FILM	0.022uF	5%	50V
C83	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C84	1-136-478-11	FILM	470PF	5%	630V
C85	1-136-433-11	FILM	100PF	5%	630V
C86	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C87	1-136-273-91	FILM	75PF	5%	630V
C88	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C89	1-124-234-00	ELECT	22uF	20%	16V
C90	1-107-584-11	CERAMIC	4PF	0.25PF	500V
C91	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C92	1-136-157-00	FILM	0.022uF	5%	50V
C93	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C94	1-136-478-11	FILM	470PF	5%	630V
C95	1-136-433-11	FILM	100PF	5%	630V
C96	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C97	1-136-273-91	FILM	75PF	5%	630V
C98	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C99	1-164-005-11	CERAMIC CHIP	0.47uF		25V
		< CONNECTOR >			
* CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P			
* CNP33	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CNP72	1-764-902-11	CONNECTOR, FFC/FPC 4P			
* CNP75	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P			
		< DIODE >			
D31	8-719-016-74	DIODE 1SS352			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2			
IC81	8-759-106-56	IC uPC1297CA			
		< COIL >			
L81	1-410-780-11	INDUCTOR	27mH		
L91	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q51	8-729-808-01	TRANSISTOR	2SD1622-S		
Q52	8-729-808-01	TRANSISTOR	2SD1622-S		
Q53	8-729-808-01	TRANSISTOR	2SD1622-S		
Q71	8-729-216-22	TRANSISTOR	2SA1162-G		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R33	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R51	1-216-097-00	METAL CHIP	100K	5%	1/10W
R52	1-216-097-00	METAL CHIP	100K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R57	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W
R76	1-216-090-00	METAL CHIP	51K	5%	1/10W
R81	1-216-073-00	METAL CHIP	10K	5%	1/10W
R82	1-216-085-00	METAL CHIP	33K	5%	1/10W
R83	1-216-001-00	METAL CHIP	10	5%	1/10W
R84	1-216-101-00	METAL CHIP	150K	5%	1/10W
R85	1-216-075-00	METAL CHIP	12K	5%	1/10W
R91	1-216-073-00	METAL CHIP	10K	5%	1/10W
R92	1-216-085-00	METAL CHIP	33K	5%	1/10W
R93	1-216-001-00	METAL CHIP	10	5%	1/10W
R94	1-216-101-00	METAL CHIP	150K	5%	1/10W
R95	1-216-075-00	METAL CHIP	12K	5%	1/10W
		< VARIABLE RESISTOR >			
RV11	1-241-761-11	RES, ADJ, CARBON 1K			
RV21	1-241-761-11	RES, ADJ, CARBON 1K			
RV71	1-241-630-11	RES, ADJ, CARBON 10K			
RV72	1-241-630-11	RES, ADJ, CARBON 10K			
RV81	1-241-786-11	RES, ADJ, CARBON 22K			
RV91	1-241-786-11	RES, ADJ, CARBON 22K			
		< RELAY >			
RY31	1-515-803-11	RELAY			
		< TRANSFORMER >			
T51	1-406-417-11	COIL, BIAS OSCILLATION			
T81	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR			

AUDIO (B) (A790)

Ref. No.	Part No.	Description			Remark
T91	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR			
		< TEST PIN >			
* TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD) 3P			
**********					
*	A-2007-102-A	AUDIO (B) BOARD COMPLETE (A590:DECK B)			
		**********			
		< CAPACITOR >			
C12	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C13	1-136-153-00	FILM	0.01uF	5%	50V
C14	1-126-177-11	ELECT	100uF	20%	10V
C15	1-124-234-00	ELECT	22uF	20%	16V
C16	1-136-434-11	FILM	120PF	5%	630V
C17	1-164-080-11	CERAMIC	390PF	10%	50V
C18	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C22	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C23	1-136-153-00	FILM	0.01uF	5%	50V
C24	1-126-177-11	ELECT	100uF	20%	10V
C25	1-124-234-00	ELECT	22uF	20%	16V
C26	1-136-434-11	FILM	120PF	5%	630V
C27	1-164-080-11	CERAMIC	390PF	10%	50V
C28	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C53	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C58	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD			
CNJ72	1-764-902-11	CONNECTOR, FFC/FPC 4P			
		< IC >			
IC31	8-759-249-21	IC uPC1330AGR			
IC32	8-759-106-02	IC uPC4570G2			
		< JUMPER RESISTOR >			
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W
JW11	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW12	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW13	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW14	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW15	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW16	1-216-296-91	METAL GLAZE	0	5%	1/8W

AUDIO (B) (A590)

Ref. No.	Part No.	Description			Remark
JW17	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW18	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW19	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW20	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW21	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW22	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW23	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW24	1-216-296-91	METAL GLAZE	0	5%	1/8W
JW25	1-216-296-91	METAL GLAZE	0	5%	1/8W
		< COIL >			
L11	1-410-780-11	INDUCTOR	27mH		
L21	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q71	8-729-602-36	TRANSISTOR 2SA1602			
		< RESISTOR >			
R12	1-216-033-00	METAL CHIP	220	5%	1/10W
R13	1-216-081-00	METAL CHIP	22K	5%	1/10W
R14	1-216-075-00	METAL CHIP	12K	5%	1/10W
R15	1-216-107-00	METAL CHIP	270K	5%	1/10W
R16	1-249-430-11	CARBON	12K	5%	1/4W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-033-00	METAL CHIP	220	5%	1/10W
R23	1-216-081-00	METAL CHIP	22K	5%	1/10W
R24	1-216-075-00	METAL CHIP	12K	5%	1/10W
R25	1-216-107-00	METAL CHIP	270K	5%	1/10W
R26	1-249-430-11	CARBON	12K	5%	1/4W
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W
R41	1-249-393-11	CARBON	10	5%	1/4W F
R42	1-249-393-11	CARBON	10	5%	1/4W F
R51	1-216-079-00	METAL CHIP	18K	5%	1/10W
R52	1-216-079-00	METAL CHIP	18K	5%	1/10W
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W
		< VARIABLE RESISTOR >			
RV12	1-238-551-11	RES, ADJ, CARBON 220K			
RV22	1-238-551-11	RES, ADJ, CARBON 220K			
		< TRANSFORMER >			
T51	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			
**********					

FL KEY, SW MAIN

Ref. No.	Part No.	Description				Remark
*	1-651-149-11	FL BOARD				
		********				
	3-911-035-01	HOLDER (FL TUBE)				
*	4-955-901-01	CUSHION (FL)				
		< CAPACITOR >				
C501	1-161-494-00	CERAMIC	0.022uF			25V
C502	1-161-494-00	CERAMIC	0.022uF			25V
		< CONNECTOR >				
* CN507	1-568-845-11	SOCKET, CONNECTOR 31P				
		< FILTER >				
FL501	1-517-277-11	INDICATOR TUBE, FLUORESCENT				
		< RESISTOR >				
R500	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R512	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R513	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R514	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R515	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R519	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R520	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R521	1-249-441-11	CARBON	100K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV501	1-223-673-11	RES, VAR, CARBON 10K (REC VOL)				
		< SWITCH >				
S514	1-554-303-21	SWITCH, TACTILE (A(COUNTER RESET))				
S515	1-554-303-21	SWITCH, TACTILE (ARL)				
S516	1-554-303-21	SWITCH, TACTILE (FADER)				
S517	1-571-452-11	SWITCH, SLIDE (DOLBY)				
S521	1-554-303-21	SWITCH, TACTILE (B(COUNTER RESET))				
S522	1-571-452-11	SWITCH, SLIDE (DIRECTION MODE)				
**********						
*	1-651-150-11	KEY. SW BOARD				
		**********				
		< RESISTOR >				
R501	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R502	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R503	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R504	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R505	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R506	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R507	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R508	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R509	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R510	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R511	1-249-431-11	CARBON	15K	5%	1/4W	
R516	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R517	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R518	1-249-422-11	CARBON	2.7K	5%	1/4W	F
		< SWITCH >				
S501	1-554-303-21	SWITCH, TACTILE (■)				
S502	1-554-303-21	SWITCH, TACTILE (▷)				
S503	1-554-303-21	SWITCH, TACTILE (◁)				
S504	1-554-303-21	SWITCH, TACTILE (◀◀(AMS))				
S505	1-554-303-21	SWITCH, TACTILE (▶▶(AMS))				
S506	1-554-303-21	SWITCH, TACTILE (● REC)				
S507	1-554-303-21	SWITCH, TACTILE (■)				
S508	1-554-303-21	SWITCH, TACTILE (❙❙ PAUSE)				
S509	1-554-303-21	SWITCH, TACTILE (▷)				
S510	1-554-303-21	SWITCH, TACTILE (◁)				
S511	1-554-303-21	SWITCH, TACTILE (○ REC MUTE)				
S512	1-554-303-21	SWITCH, TACTILE (◀◀(AMS))				
S513	1-554-303-21	SWITCH, TACTILE (▶▶(AMS))				
S518	1-554-303-21	SWITCH, TACTILE (NORMAL SPEED)				
S519	1-554-303-21	SWITCH, TACTILE (HIGH SPEED)				
S520	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)				
**********						
*	A-2007-188-A	MAIN BOARD, COMPLETE (A590:AE, EE, E, AU, EA, MX, MY, PX, SP, CIS)				
		**********				
*	A-2007-190-A	MAIN BOARD, COMPLETE (A590:G, IT)				
		**********				
*	A-2007-217-A	MAIN BOARD, COMPLETE (A790:AE, E, AU, EA, MX, MY, SP, CIS)				
		**********				
*	A-2007-220-A	MAIN BOARD, COMPLETE (A790:G, IT)				
		**********				
*	4-942-204-01	PLATE, GROUND				
		< CAPACITOR >				
C1	1-164-159-11	CERAMIC	0.1uF			50V
C2	1-164-159-11	CERAMIC	0.1uF			50V
C3	1-164-159-11	CERAMIC	0.1uF			50V
C4	1-164-159-11	CERAMIC	0.1uF			50V
C15	1-164-159-11	CERAMIC	0.1uF			50V
C103	1-164-159-11	CERAMIC	0.1uF			50V

Ref. No.	Part No.	Description			Remark
C104	1-126-059-11	ELECT	10uF	20%	50V
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V
C106	1-130-475-00	MYLAR	0.0022uF	5%	50V
C107	1-130-475-00	MYLAR	0.0022uF	5%	50V
C108	1-136-174-00	FILM	0.56uF	5%	50V
C109	1-136-171-00	FILM	0.33uF	5%	50V
C110	1-126-059-11	ELECT	10uF	20%	50V
C111	1-126-059-11	ELECT	10uF	20%	50V
C112	1-124-994-11	ELECT	100uF	20%	10V
C113	1-126-161-11	ELECT	2.2uF	20%	50V
C114	1-162-282-31	CERAMIC	100PF	10%	50V
C115	1-126-161-11	ELECT	2.2uF	20%	50V
C116	1-126-163-11	ELECT	4.7uF	20%	50V
C117	1-126-012-11	ELECT	470uF	20%	16V
C119	1-124-360-00	ELECT	1000uF	20%	16V
C157	1-126-012-11	ELECT	470uF	20%	16V
C158	1-126-300-11	ELECT	0.47uF	20%	50V
C169	1-126-300-11	ELECT	0.47uF	20%	50V
C203	1-164-159-11	CERAMIC	0.1uF		50V
C204	1-126-059-11	ELECT	10uF	20%	50V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V
C206	1-130-475-00	MYLAR	0.0022uF	5%	50V
C207	1-130-475-00	MYLAR	0.0022uF	5%	50V
C208	1-136-174-00	FILM	0.56uF	5%	50V
C209	1-136-171-00	FILM	0.33uF	5%	50V
C210	1-126-059-11	ELECT	10uF	20%	50V
C211	1-126-059-11	ELECT	10uF	20%	50V
C212	1-124-994-11	ELECT	100uF	20%	10V
C213	1-126-161-11	ELECT	2.2uF	20%	50V
C214	1-162-282-31	CERAMIC	100PF	10%	50V
C215	1-126-161-11	ELECT	2.2uF	20%	50V
C216	1-126-163-11	ELECT	4.7uF	20%	50V
C302	1-162-292-31	CERAMIC	680PF	10%	50V
C304	1-162-293-31	CERAMIC	820PF	10%	50V
C305	1-126-161-11	ELECT	2.2uF	20%	50V
C306	1-126-301-11	ELECT	1uF	20%	50V
C307	1-126-161-11	ELECT	2.2uF	20%	50V
C308	1-126-300-11	ELECT	0.47uF	20%	50V
C309	1-126-163-11	ELECT	4.7uF	20%	50V
C310	1-126-163-11	ELECT	4.7uF	20%	50V
C311	1-124-994-11	ELECT	100uF	20%	10V
C312	1-126-162-11	ELECT	3.3uF	20%	50V
C313	1-126-300-11	ELECT	0.47uF	20%	50V
C314	1-164-159-11	CERAMIC	0.1uF		50V
C315	1-126-161-11	ELECT	2.2uF	20%	50V
C316	1-126-301-11	ELECT	1uF	20%	50V
C352	1-162-292-31	CERAMIC	680PF	10%	50V
C354	1-162-293-31	CERAMIC	820PF	10%	50V
C355	1-126-161-11	ELECT	2.2uF	20%	50V
C356	1-126-301-11	ELECT	1uF	20%	50V
C357	1-126-161-11	ELECT	2.2uF	20%	50V
C358	1-126-300-11	ELECT	0.47uF	20%	50V
C359	1-126-163-11	ELECT	4.7uF	20%	50V
C360	1-126-163-11	ELECT	4.7uF	20%	50V
C361	1-124-994-11	ELECT	100uF	20%	10V
C362	1-126-162-11	ELECT	3.3uF	20%	50V
C363	1-126-059-11	ELECT	10uF	20%	50V
C364	1-126-163-11	ELECT	4.7uF	20%	50V
C366	1-126-301-11	ELECT	1uF	20%	50V
C401	1-126-161-11	ELECT	2.2uF	20%	50V
C402	1-126-161-11	ELECT	2.2uF	20%	50V
C403	1-164-159-11	CERAMIC	0.1uF		50V
C404	1-126-163-11	ELECT	4.7uF	20%	50V
C405	1-136-167-00	FILM	0.15uF	5%	50V
C406	1-136-161-00	FILM	0.047uF	5%	50V
C407	1-124-471-00	ELECT	1000uF	20%	6.3V
C451	1-126-161-11	ELECT	2.2uF	20%	50V
C452	1-126-161-11	ELECT	2.2uF	20%	50V
C454	1-126-163-11	ELECT	4.7uF	20%	50V
C455	1-164-159-11	CERAMIC	0.1uF		50V
C456	1-164-159-11	CERAMIC	0.1uF		50V
C701	1-126-937-11	ELECT	4700uF	20%	16V
C702	1-126-937-11	ELECT	4700uF	20%	16V
C703	1-126-101-11	ELECT	100uF	20%	16V
C704	1-124-473-11	ELECT	1000uF	20%	10V
C705	1-124-473-11	ELECT	1000uF	20%	10V
C707	1-124-472-11	ELECT	470uF	20%	10V
C708	1-126-161-11	ELECT	2.2uF	20%	50V
C709	1-126-301-11	ELECT	1uF	20%	50V
C710	1-126-301-11	ELECT	1uF	20%	50V
C712	1-124-122-11	ELECT	100uF	20%	50V
C713	1-126-161-11	ELECT	2.2uF	20%	50V
C714	1-126-161-11	ELECT	2.2uF	20%	50V
C720	1-162-290-31	CERAMIC	470PF	10%	50V
C801	1-126-300-11	ELECT	0.47uF	20%	50V
C802	1-164-159-11	CERAMIC	0.1uF		50V
C803	1-161-494-00	CERAMIC	0.022uF		25V
C804	1-161-494-00	CERAMIC	0.022uF		25V
C805	1-124-994-11	ELECT	100uF	20%	10V
C806	1-126-059-11	ELECT	10uF	20%	50V
C807	1-124-994-11	ELECT	100uF	20%	10V
C808	1-126-301-11	ELECT	1uF	20%	50V
C809	1-126-301-11	ELECT	1uF	20%	50V
C810	1-164-159-11	CERAMIC	0.1uF		50V
C811	1-164-159-11	CERAMIC	0.1uF		50V
C812	1-162-290-31	CERAMIC	470PF	10%	50V
C813	1-162-290-31	CERAMIC	470PF	10%	50V
C814	1-126-162-11	ELECT	3.3uF	20%	50V

MAIN

Ref. No.	Part No.	Description		Remark
C815	1-164-159-11	CERAMIC 0.1uF		50V
C816	1-161-494-00	CERAMIC 0.022uF		25V
C817	1-164-159-11	CERAMIC 0.1uF		50V
C818	1-161-494-00	CERAMIC 0.022uF		25V
C819	1-161-494-00	CERAMIC 0.022uF		25V
C820	1-161-494-00	CERAMIC 0.022uF		25V
C821	1-161-494-00	CERAMIC 0.022uF		25V
C822	1-161-494-00	CERAMIC 0.022uF		25V
C823	1-161-379-00	CERAMIC 0.01uF	20%	25V
		< CONNECTOR >		
* CN501	1-580-784-11	CONNECTOR, BOARD TO BOARD		
* CN502	1-580-784-11	CONNECTOR, BOARD TO BOARD		
* CN503	1-580-784-11	CONNECTOR, BOARD TO BOARD		
* CN504	1-566-858-41	SOCKET, CONNECTOR 11P		
* CN505	1-568-826-11	SOCKET, CONNECTOR 7P		
* CN506	1-568-826-11	SOCKET, CONNECTOR 7P		
* CN701	1-566-859-11	SOCKET, CONNECTOR 15P		
* CN801	1-568-954-11	PIN, CONNECTOR 5P		
* CN802	1-568-845-11	SOCKET, CONNECTOR 31P		
		< DIODE >		
D101	8-719-933-54	DIODE HZS9A2L		
D102	8-719-987-63	DIODE 1N4148M		
D301	8-719-933-33	DIODE HZS6A1L		
D302	8-719-933-33	DIODE HZS6A1L		
D303	8-719-987-63	DIODE 1N4148M		
D401	8-719-987-63	DIODE 1N4148M		
D701	8-719-200-77	DIODE 10E2N		
D702	8-719-200-77	DIODE 10E2N		
D703	8-719-200-77	DIODE 10E2N		
D704	8-719-200-77	DIODE 10E2N		
D705	8-719-200-77	DIODE 10E2N		
D706	8-719-200-77	DIODE 10E2N		
D707	8-719-933-33	DIODE HZS6A1L		
D708	8-719-933-33	DIODE HZS6A1L		
D709	8-719-000-78	DIODE UZL-7L2		
D710	8-719-933-54	DIODE HZS9A2L		
D711	8-719-933-54	DIODE HZS9A2L		
D712	8-719-987-63	DIODE 1N4148M		
D713	8-719-987-63	DIODE 1N4148M		
D714	8-719-933-33	DIODE HZS6A1L		
D802	8-719-987-63	DIODE 1N4148M		
D803	8-719-200-77	DIODE 10E2N		
D804	8-719-200-77	DIODE 10E2N		
D805	8-719-987-63	DIODE 1N4148M		
D806	8-719-987-63	DIODE 1N4148M		
D807	8-719-987-63	DIODE 1N4148M		

Ref. No.	Part No.	Description	Remark
		< IC >	
IC301	8-759-635-26	IC M5283P	
IC302	8-752-059-54	IC CXA1332S	
IC303	8-752-058-57	IC CXA1599Q	
IC304	8-759-145-58	IC uPC4558C	
IC401	8-759-634-51	IC M5218AP	
IC402	8-759-140-53	IC uPD4053BC	
IC403	8-759-135-80	IC uPC358C	
IC701	8-759-145-58	IC uPC4558C	
IC801	8-759-254-18	IC M38172M4-082FP	
IC801	8-759-266-35	IC TA8242K (A790)	
IC802	8-759-165-82	IC PST600E-T	
IC803	8-759-266-35	IC TA8242K	
IC804	8-759-000-48	IC MC14052BCP	
		< COIL >	
L101	1-410-470-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q101	8-729-900-65	TRANSISTOR DTA144ES	
Q102	8-729-900-89	TRANSISTOR DTC144ES	
Q103	8-729-900-61	TRANSISTOR DTA114ES	
Q301	8-729-900-89	TRANSISTOR DTC144ES	
Q305	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q306	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q351	8-729-900-89	TRANSISTOR DTC144ES	
Q401	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q402	8-729-922-37	TRANSISTOR 2SD2144S-UVW	
Q403	8-729-922-37	TRANSISTOR 2SD2144S-UVW	
⚠Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
⚠Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
⚠Q704	8-729-209-15	TRANSISTOR 2SD2012	
Q803	8-729-801-93	TRANSISTOR 2SD1387-B	
Q804	8-729-801-93	TRANSISTOR 2SD1387-B	
Q805	8-729-900-80	TRANSISTOR DTC114ES	
Q807	8-729-900-89	TRANSISTOR DTC144ES	
Q808	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q809	8-729-900-89	TRANSISTOR DTC144ES	
Q810	8-729-900-89	TRANSISTOR DTC144ES	
Q811	8-729-900-89	TRANSISTOR DTC144ES	
Q812	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R107	1-249-420-11	CARBON 1.8K 5%	1/4W F
R108	1-249-425-11	CARBON 4.7K 5%	1/4W F
R109	1-249-423-11	CARBON 3.3K 5%	1/4W F
R110	1-249-428-11	CARBON 8.2K 5%	1/4W F

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
R111	1-249-441-11	CARBON	100K	5%	1/4W	
R112	1-247-864-11	CARBON	24K	5%	1/4W	
R113	1-249-414-11	CARBON	560	5%	1/4W	F
R114	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R115	1-249-417-11	CARBON	1K	5%	1/4W	F
R116	1-249-433-11	CARBON	22K	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W	
R118	1-249-429-11	CARBON	10K	5%	1/4W	
R119	1-247-887-00	CARBON	220K	5%	1/4W	
R120	1-249-441-11	CARBON	100K	5%	1/4W	
R121	1-249-437-11	CARBON	47K	5%	1/4W	
R122	1-249-434-11	CARBON	27K	5%	1/4W	
R123	1-249-441-11	CARBON	100K	5%	1/4W	
R124	1-247-807-31	CARBON	100	5%	1/4W	
R207	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R208	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R209	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R210	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R211	1-249-441-11	CARBON	100K	5%	1/4W	
R212	1-247-864-11	CARBON	24K	5%	1/4W	
R213	1-249-414-11	CARBON	560	5%	1/4W	F
R214	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R215	1-249-434-11	CARBON	27K	5%	1/4W	
R216	1-249-433-11	CARBON	22K	5%	1/4W	
R218	1-249-429-11	CARBON	10K	5%	1/4W	
R219	1-247-887-00	CARBON	220K	5%	1/4W	
R220	1-249-441-11	CARBON	100K	5%	1/4W	
R221	1-249-437-11	CARBON	47K	5%	1/4W	
R222	1-249-434-11	CARBON	27K	5%	1/4W	
R223	1-249-441-11	CARBON	100K	5%	1/4W	
R301	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R303	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R305	1-249-417-11	CARBON	1K	5%	1/4W	F
R306	1-249-429-11	CARBON	10K	5%	1/4W	
R307	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R308	1-247-848-11	CARBON	5.1K	5%	1/4W	
R309	1-249-429-11	CARBON	10K	5%	1/4W	
R310	1-247-807-31	CARBON	100	5%	1/4W	
R311	1-247-807-31	CARBON	100	5%	1/4W	
R312	1-249-439-11	CARBON	68K	5%	1/4W	
R313	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R314	1-249-429-11	CARBON	10K	5%	1/4W	
R316	1-249-413-11	CARBON	470	5%	1/4W	F
R317	1-249-429-11	CARBON	10K	5%	1/4W	
R318	1-249-441-11	CARBON	100K	5%	1/4W	
R319	1-249-429-11	CARBON	10K	5%	1/4W	
R320	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R321	1-249-432-11	CARBON	18K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R351	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R353	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R355	1-249-417-11	CARBON	1K	5%	1/4W	F
R356	1-249-429-11	CARBON	10K	5%	1/4W	
R357	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R358	1-247-848-11	CARBON	5.1K	5%	1/4W	
R359	1-249-429-11	CARBON	10K	5%	1/4W	
R360	1-247-807-31	CARBON	100	5%	1/4W	
R361	1-247-807-31	CARBON	100	5%	1/4W	
R362	1-249-439-11	CARBON	68K	5%	1/4W	
R363	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R364	1-247-844-11	CARBON	3.6K	5%	1/4W	(TA590)
R364	1-249-424-11	CARBON	3.9K	5%	1/4W	F (A790)
⚠R365	1-212-863-00	FUSIBLE	18	5%	1/4W	F
R366	1-249-429-11	CARBON	10K	5%	1/4W	
R367	1-249-417-11	CARBON	1K	5%	1/4W	F
R368	1-247-866-11	CARBON	30K	5%	1/4W	
R369	1-249-434-11	CARBON	27K	5%	1/4W	
R370	1-249-434-11	CARBON	27K	5%	1/4W	
R371	1-249-432-11	CARBON	18K	5%	1/4W	
R401	1-249-441-11	CARBON	100K	5%	1/4W	
R402	1-247-838-00	CARBON	2K	5%	1/4W	
R403	1-249-435-11	CARBON	33K	5%	1/4W	
R404	1-249-441-11	CARBON	100K	5%	1/4W	
R405	1-249-441-11	CARBON	100K	5%	1/4W	
R406	1-249-441-11	CARBON	100K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
R409	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R410	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R411	1-249-417-11	CARBON	1K	5%	1/4W	F
R412	1-249-437-11	CARBON	47K	5%	1/4W	
R413	1-249-437-11	CARBON	47K	5%	1/4W	
R414	1-249-437-11	CARBON	47K	5%	1/4W	
R415	1-249-441-11	CARBON	100K	5%	1/4W	
R416	1-249-441-11	CARBON	100K	5%	1/4W	
R451	1-249-441-11	CARBON	100K	5%	1/4W	
R452	1-247-838-00	CARBON	2K	5%	1/4W	
R453	1-249-435-11	CARBON	33K	5%	1/4W	
R454	1-249-441-11	CARBON	100K	5%	1/4W	
R455	1-249-441-11	CARBON	100K	5%	1/4W	
R456	1-249-441-11	CARBON	100K	5%	1/4W	
R458	1-249-429-11	CARBON	10K	5%	1/4W	
R459	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R460	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R461	1-249-417-11	CARBON	1K	5%	1/4W	F
R462	1-249-437-11	CARBON	47K	5%	1/4W	
R463	1-249-437-11	CARBON	47K	5%	1/4W	
R464	1-249-437-11	CARBON	47K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description				Remark
R465	1-249-437-11	CARBON	47K	5%	1/4W	
R701	1-249-413-11	CARBON	470	5%	1/4W	F
R702	1-249-413-11	CARBON	470	5%	1/4W	F
R703	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R704	1-247-858-11	CARBON	13K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R706	1-249-417-11	CARBON	1K	5%	1/4W	F
R707	1-247-850-11	CARBON	6.2K	5%	1/4W	
R708	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R709	1-249-429-11	CARBON	10K	5%	1/4W	
R710	1-249-429-11	CARBON	10K	5%	1/4W	
R711	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R712	1-219-137-11	FUSIBLE	0.33	10%	1/4W	
R713	1-219-137-11	FUSIBLE	0.33	10%	1/4W	
R714	1-247-807-31	CARBON	100	5%	1/4W	
R715	1-249-393-11	CARBON	10	5%	1/4W	F
R716	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R717	1-249-385-11	CARBON	2.2	5%	1/6W	F
R801	1-249-441-11	CARBON	100K	5%	1/4W	
R802	1-249-417-11	CARBON	1K	5%	1/4W	F
R804	1-249-429-11	CARBON	10K	5%	1/4W	
R805	1-249-429-11	CARBON	10K	5%	1/4W	
R806	1-249-429-11	CARBON	10K	5%	1/4W	
R807	1-249-429-11	CARBON	10K	5%	1/4W	
R808	1-249-435-11	CARBON	33K	5%	1/4W	
R809	1-249-435-11	CARBON	33K	5%	1/4W	
R810	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R811	1-249-429-11	CARBON	10K	5%	1/4W	
R812	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R813	1-249-429-11	CARBON	10K	5%	1/4W	
R814	1-249-429-11	CARBON	10K	5%	1/4W	
R815	1-247-807-31	CARBON	100	5%	1/4W	
R816	1-249-429-11	CARBON	10K	5%	1/4W	
R817	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R818	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R819	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R820	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R821	1-247-807-31	CARBON	100	5%	1/4W	
R822	1-247-807-31	CARBON	100	5%	1/4W	
R823	1-249-385-11	CARBON	2.2	5%	1/6W	F
R824	1-249-385-11	CARBON	2.2	5%	1/6W	F
R825	1-249-385-11	CARBON	2.2	5%	1/6W	F
R826	1-249-385-11	CARBON	2.2	5%	1/6W	F
R827	1-247-844-11	CARBON	3.6K	5%	1/4W	(A590)
R827	1-249-411-11	CARBON	330	5%	1/4W	(A790)
R828	1-247-856-00	CARBON	11K	5%	1/4W	(A590)
R828	1-249-411-11	CARBON	330	5%	1/4W	(A790)
R829	1-249-411-11	CARBON	330	5%	1/4W	(A790)
R829	1-249-416-11	CARBON	820	5%	1/4W	F (A590)

Ref. No.	Part No.	Description				Remark
R830	1-249-437-11	CARBON	47K	5%	1/4W	
R831	1-249-437-11	CARBON	47K	5%	1/4W	
R833	1-247-807-31	CARBON	100	5%	1/4W	
R834	1-247-807-31	CARBON	100	5%	1/4W	
R835	1-249-435-11	CARBON	33K	5%	1/4W	(A790)
R836	1-249-416-11	CARBON	820	5%	1/4W	F (A790)
R837	1-249-425-11	CARBON	4.7K	5%	1/4W	F (A790)
R838	1-247-887-00	CARBON	220K	5%	1/4W	
R839	1-247-887-00	CARBON	220K	5%	1/4W	
R840	1-249-437-11	CARBON	47K	5%	1/4W	
R841	1-249-429-11	CARBON	10K	5%	1/4W	
R842	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R843	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R851	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R852	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R853	1-249-434-11	CARBON	27K	5%	1/4W	
R854	1-247-807-31	CARBON	100	5%	1/4W	
R855	1-247-807-31	CARBON	100	5%	1/4W	
R856	1-247-807-31	CARBON	100	5%	1/4W	
R857	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R858	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R859	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R860	1-249-434-11	CARBON	27K	5%	1/4W	
R861	1-247-807-31	CARBON	100	5%	1/4W	
R862	1-247-807-31	CARBON	100	5%	1/4W	
R863	1-247-807-31	CARBON	100	5%	1/4W	
R864	1-247-807-31	CARBON	100	5%	1/4W	
		< VARIABLE RESISTOR >				
RV301	1-241-630-11	RES, ADJ, CARBON 10K				
RV351	1-241-630-11	RES, ADJ, CARBON 10K				
RV401	1-241-628-11	RES, ADJ, CARBON 2.2K				
		< TRANSFORMER >				
T101	1-236-087-11	FILTER, LOW PASS				
T201	1-236-087-11	FILTER, LOW PASS				
		< TEST PIN >				
* TP101	1-564-506-11	PLUG, CONNECTOR 3P				
		< VIBRATOR >				
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)				

****

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	LEAF SW (A) BOARD (DECK A)	
		**************************	
		< CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P	
		< IC >	
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5% 1/4W F	
R85	1-249-408-11	CARBON 180 5% 1/4W F	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70uEQ)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	
**********			
*	1-634-841-14	LEAF SW (B) BOARD (DECK B)	
		**************************	
		< CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P	
		< IC >	
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
		< RESISTOR >	
R81	1-249-414-11	CARBON 560 5% 1/4W F	
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
R84	1-249-417-11	CARBON 1K 5% 1/4W F	
R85	1-249-408-11	CARBON 180 5% 1/4W F	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70uEQ)	
S83	1-571-281-21	SWITCH, LEAF (METAL)	
S84	1-571-281-21	SWITCH, LEAF (REC A)	
S85	1-571-281-21	SWITCH, LEAF (REC B)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	
**********			

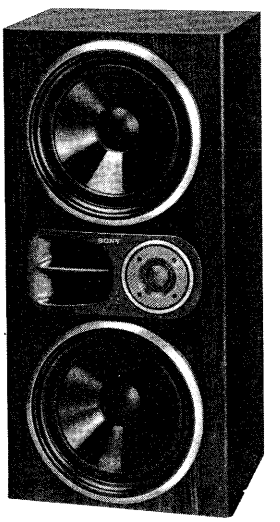
Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		************	
1	1-765-384-11	WIRE (FLAT TYPE) (7 CORE)	
62	1-765-079-11	WIRE (FLAT TYPE) (31 CORE)	
271	1-638-983-11	MOTOR FLEXIBLE BOARD	
HP101	A-2003-838-F	DECK ASSY, HEAD (DECK A)	
HRP101	A-2004-190-F	DECK ASSY, HEAD (DECK B)	
M101	X-3365-377-1	MOTOR ASSY (CAPSTAN)	
M102	X-3363-501-1	MOTOR ASSY (REEL)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		******************************	
*	3-350-154-01	CUSHION	
*	3-704-350-01	SHEET (STANDARD), PROTECTION	
**********			

HARDWARE LIST

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#7	7-621-775-00	SCREW +B 2.6X3
#8	7-627-556-08	SCREW +P 2.6X2.8

SS-D790AV

SERVICE MANUAL



E Model
Australian Model
PX Model
Tourist Model

SPECIFICATIONS

Speaker system	2-way
Speaker units	Woofer : 22 cm × 2, cone type
	Tweeter : 3 cm, dome type
Enclosure type	Bass reflex
Rated impedance	6 ohms
Maximum input power	200 W
Sensitivity	91 dB (1 W, 1 m)
Frequency range	40 Hz to 20,000 Hz
Dimensions	300 × 610 × 260 mm (w/h/d)
Weight	12 kg
Magnetically shielded type	

Design and specifications subject to change without notice.

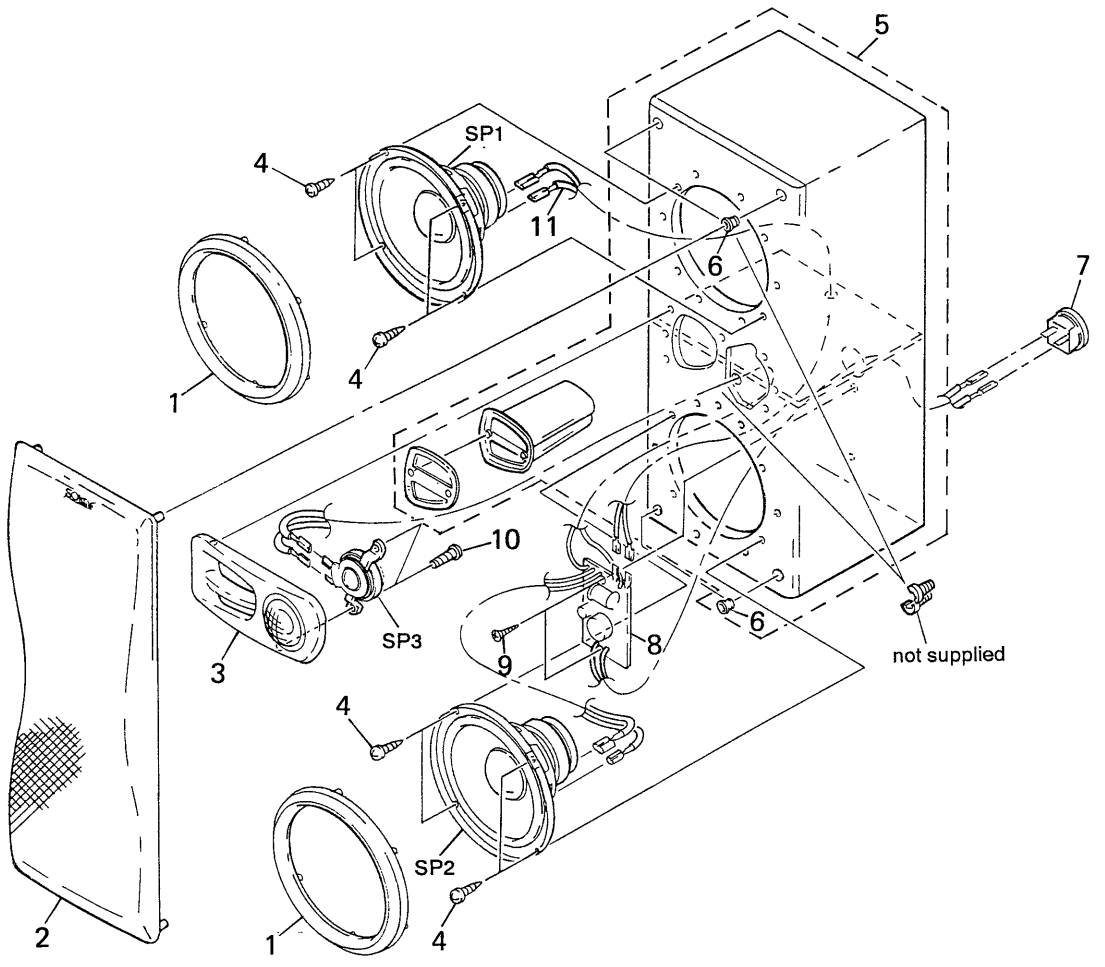
SPEAKER SYSTEM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



Ref. No.	Part No.	Description	Remark
1	X-4943-384-1	FRAME (W) ASSY, ORNAMENTAL	
2	X-4944-855-1	FRAME ASSY, GRILLE	
3	X-4944-853-1	BOARD (L) ASSY, UNIT	
3	X-4944-854-1	BOARD (R) ASSY, UNIT	
4	7-685-163-61	SCREW +BVTP 4X16	
* 5	A-4353-867-A	CABINET (L) ASSY, SPEAKER	
* 5	A-4353-868-A	CABINET (R) ASSY, SPEAKER	
6	4-886-220-00	CATCHER	
7	1-537-145-11	TERMANAL BOARD (SPEAKER)	
* 8	1-589-618-11	MOUNTED PC BOARD	
9	4-949-145-01	SCREW +BVTP 3.5X18	
10	7-685-660-79	SCREW +BVTP 4X10	
11	1-765-697-11	CORD	

Ref. No.	Part No.	Description	Remark
SP1	1-504-572-11	SPEAKER 200W051AV	
SP2	1-504-572-11	SPEAKER 200W051AV	
SP3	1-504-573-11	SPEAKER (3CM)	
		ACCESSORISE & PACKING MATERIALS	
		**********	
	1-558-848-11	CORD, SPEAKER	
*	4-953-042-01	CUSHION (UPPER)	
*	4-953-043-01	CUSHION (LOWER)	
*	4-967-903-01	INDIVIDUAL CARTON	

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